

**UNDERGROUND STORAGE TANK  
CLOSURE REPORT  
TT-2610**

**TARAWA TERRACE  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA**

**JULY 28, 2009**



**NAVY CONTRACT No. N62470-05-D-6200  
CATLIN PROJECT No. 209-025**

**PREPARED BY:**

**CATLIN ENGINEERS AND SCIENTISTS  
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**NC ENGINEERING LICENSE NO.: C-0585**

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**UST-12  
UNDERGROUND STORAGE TANK (UST) CLOSURE REPORT  
SITE TT-2610  
TARAWA TERRACE  
MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA**

**A. GENERAL INFORMATION**

**1. Facility Information**

**a. Facility Name:**

Site TT-2610  
Tarawa Terrace

**b. Facility ID Number:**

N/A

**c. Facility address, telephone number, and county:**

Commanding Officer  
Director, Installations and Environment Department, Environmental  
Management Division (EMD)  
PSC Box 20004  
Marine Corps Base (MCB) Camp Lejeune, North Carolina, 28542-0004  
(910) 451-5068  
Onslow County

**2. Contacts**

**a. Name, address, telephone number, and job title of primary contact person:**

Mr. Bruce Markwick  
Installations and Environment Department, EMD  
MCB Camp Lejeune, North Carolina 28542  
(910) 451-5068

**b. Name, address, and telephone number of closure contractor:**

TMS  
MEC-TMS Laydown Area / Gas House Road  
Cherry Point, North Carolina 28533  
(252) 447-1700

**c. Name, address, and telephone number of primary consultant:**

CATLIN Engineers and Scientists (CATLIN)  
220 Old Dairy Road  
Wilmington, North Carolina 28405  
(910) 452-5861

**d. Name, address, telephone number, and State certification number of laboratory:**

SGS Environmental Services (SGS)  
5500 Business Drive  
Wilmington, North Carolina 28405  
(910) 350-1903  
NC Laboratory Certification # 481

**3. UST Information**

<b>Tank Number</b>	<b>Installation Date</b>	<b>Capacity (Gallons)</b>	<b>Tank Dimensions</b>	<b>Last Contents of Tank</b>
TT-2610	Unknown	550	4 ft x 6 ft	#2 Heating Oil

**4. Site Characteristics**

**a. Describe any past releases at the site:**

No previous releases have been reported in conjunction with this tank.

**b. Indicate if the facility is active or inactive. If inactive, note the last date that the USTs were in operation:**

The UST was an inactive home heating oil tank previously used to store #2 Heating Oil for on-site use.

**c. Describe the use of surrounding properties:**

The site is located within the Tarawa Terrace Housing Area aboard the MCB Camp Lejeune. The site is in an area where existing housing will be demolished and used to re-build military housing units. As a result, land use should be categorized as Residential.

**d. Describe site geology and hydrogeology:**

The site lies within the Tidewater Region of the Coastal Plain Physiographic Province of North Carolina, where large streams and many of their tributaries are affected by ocean tides. The predominant soil type at the site is silty sand to sand of Quarternary surficial deposits. The depth to the underlain Tertiary Castle Hayne limestone/sand is unknown, but is estimated to be more than 30 feet. The depth to water is estimated to be approximately eight (8) feet below land surface (BLS).

**e. If a release has occurred, describe the results of the receptor survey performed within 1,500 feet of the facility:**

As illustrated on Figure 1, the nearest surface water body is an unnamed tributary of the New River, which is approximately 150 feet south of the site. Groundwater flow direction in the surficial aquifer is estimated to flow toward the south. There are no water supply wells within a 1,500 ft radius of the site,

and all buildings in the area are supplied by the MCB water supply system, specifically water from the Holcomb Boulevard Water Treatment Plant.

The nearest place of public assembly is unknown at this time as the entire area is being redeveloped with new residential housing units. Community playgrounds may be planned in the area where the new housing units are to be constructed.

## **B. CLOSURE PROCEDURES**

### **1. Describe preparations for closure including steps taken to notify authorities, permits obtained, and steps taken to clean and purge the tanks:**

According to TMS, the UST was pre-located and surveyed prior to removal to prevent damage or UST releases by subcontractors of Actus Lend Lease (Actus). On May 7, 2009 an access hole was cut into the top of the tank in order to remove liquid contents from tank. A vacuum truck, provided by the subcontractor P&F Environmental (P&F) from Rocky Mount, North Carolina was used to remove approximately 550 gallons of contaminated water from the tank.

As documented by TMS, on May 7, 2009, the tank was removed and transported to a lay down area for cleaning and disposal preparation. TMS personnel noted there were signs of deterioration and corrosion on the bottom of the UST. Photographs of the tank are included in Appendix F. The tank was transported to Jacksonville Scrap for disposal on May 7, 2009. The Tank Disposal Manifest is included in Appendix C. Appendix A and B contain North Carolina Department of Environment and Natural Resources (NCDENR) Forms UST-2 and UST-61, respectively.

### **2. Describe the closure procedure:**

The site layout is illustrated on Figure 2. One (1) heating oil tank was found adjacent to building TT-2610. Sufficient soils were removed from the top of tank allowing access for fluid removal. According to TMS, following fluid removal, vapors were measured inside the tank and found to be acceptable for tank removal. Sufficient soils were excavated from the sides of the UST allowing the tank to be lifted from the excavation.

The top of the tank was two (2) feet BLS. The tank was constructed of steel and there were through holes and severe pitting and rust noted.

Based on the holes in the tank, odor and soil staining, additional soils were excavated and loaded into dump trucks and transported to a nearby stockpile for subsequent off-site disposal. A *Site Investigation Report for Permanent Closure or Change-in-Service of UST (UST-2)* form is included in Appendix A.

**3. Note the amount of residual material pumped from the tank:**

TMS reported that approximately 550 gallons of contaminated water was pumped from the tank.

**4. Describe the storage, sampling and disposal of the residual material:**

According to TMS, the 550 gallons of contaminated water pumped from the tank, was containerized and properly disposed by EMD, Resource Conservation and Recovery Section (RCRS) at Building 977.

**5. Excavation**

**a. Describe excavation procedures noting the condition of the soil encountered and the dimensions of the excavation in relation to the tank, piping, and/or pumps:**

TMS mobilized to the site to conduct a site survey and remove the UST on May 7, 2009. Once the UST was removed, visible staining was noted beneath the tank. Excavation activities began and a Photoionization Detector (PID) was used to identify contamination limits prior to obtaining soil samples. Elevated PID readings were noted in the sidewall soils and bottom soils. One soil sample (TT-2610-B) was collected at approximately six and one-half (6.5) feet BLS, directly below the tank bottom. The soil sample was collected from the backhoe bucket and submitted for Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) analysis per Environmental Protection Agency (EPA) Method 8015.

Petroleum impacted soils were excavated surrounding the former tank location to the extent physically possible due to the site constraints (including utilities and building foundation). Excavation limits were approximately eight (8) feet (length) by six (6) feet (width) by eight (8) feet deep.

Four soil samples were collected at approximately three (3) to four (4) feet BLS along the sidewalls surrounding the tank (TT-2610-1 through TT-2610-4). The soil samples were collected from the backhoe bucket and submitted for volatile and semi-volatile organics analysis per EPA Methods 8260 and 8270 and Massachusetts Department of Environmental Protection (MADEP) Extractable and Volatile Petroleum Hydrocarbons (EPH and VPH).

The excavated soils were properly stockpiled (temporarily) and subsequently loaded and transported for disposal to the P&F Land Farming Facility, Permit# SR0500106, in Whitakers, NC.

The excavation was backfilled with clean fill material. The excavation was backfilled to initial land surface level.

**b. Note the depth from the land surface to the top of the tank:**

The top of the tank was approximately two (2) feet BLS.

**c. Note the volume of soil excavated:**

Soils removed during this UST closure excavation were stockpiled with additional soils excavated during three (3) other tank closures conducted concurrently at Tarawa Terrace. A total of 67.71 tons of soil were excavated from the four (4) tank basins.

**d. Describe the soil type(s) encountered:**

Based on observation of the tank excavation, soils encountered were a clayey sand / sandy clay mixture.

**e. Describe the type and source of backfill used:**

The excavation was filled with clean sandy material from the Camp Lejeune Landfill.

**f. Note if water, free product, or bedrock was encountered during the excavation process:**

Groundwater was encountered at approximately eight (8) feet BLS. No free product or bedrock was encountered during the excavation process.

**6. Contaminated soil**

As previously mentioned, during the four (4) concurrent UST removal activities and over excavations, a total of 67.71 tons of contaminated soil were excavated. The 67.71 tons of soil removed during the excavations were transported to the P&F Land Facility, Permit# SR0500106, in Whitakers, NC for disposal. Soil Disposal Manifests are included in Appendix D.

**C. SITE INVESTIGATION**

**1. Provide information of field screening and physical observations, including methods used to calibrate field screening instruments:**

Soil discoloration and petroleum odor were observed within the UST excavation. PID field screening indicated organic vapor readings in the sidewalls, as well as at the bottom. The PID instrument was calibrated using the standard procedure as recommended by the manufacturer.

**2. Document soil sampling information including the sample locations, sample type, procedure, and analyses used:**

Soil sample locations are illustrated on Figure 2.

Soil sample TT-2610-B was obtained from directly beneath the removed tank approximately 6.5 feet BLS. Confirmation soil samples (Sample IDs TT-2610-1 through TT-2610-4) were collected following over excavation from the tank basin sidewalls on May 7, 2009. Soil samples TT-2610-1 through TT-2610-4 were collected from the sidewalls at approximately four (4) feet BLS. The samples were placed into laboratory provided glassware, properly labeled, and transported directly to SGS under proper chain of custody. The TT-2610-B sample was analyzed for TPH-GRO and DRO via EPA Method 8015. The confirmation sidewall samples

(TT-2610-1 through TT-2610-4) were submitted for volatile and semi-volatile organics analysis per EPA Methods 8260 and 8270 and MADEP EPH and VPH.

**3. Document groundwater sampling information:**

No groundwater samples were collected during this investigation.

**4. Document quality-control measures:**

Laboratory provided glassware and containers and disposable gloves were used during sampling. Upon collection, soil samples were immediately packed into clean containers and refrigerated for shipment to the analytical laboratory. There was a laboratory trip blank included with each cooler of samples.

**5. Describe investigation results:**

Some soil discoloration and petroleum odor were observed during tank removal. Elevated PID readings indicated the presence of organic vapors in the sidewalls, as well as the excavation bottom.

Laboratory results of the soil samples collected during this tank removal action are summarized in Tables 1 and 2, illustrated on Figure 2 and the laboratory analytical report is included in Appendix E.

The tank closure soil sample TT-2610-B analytical results did not reveal any TPH-GRO concentrations above the reporting limit, however; TPH-DRO concentrations were detected at 754 milligrams per kilogram (mg/kg). The excavation confirmation sidewall soil samples (Sample IDs TT-2610-1 through TT-2610-5) revealed numerous compound concentrations above the lowest corresponding maximum soil contaminant concentration (MSCC). Laboratory results are discussed as follows:

EPA Method 8260

Laboratory analysis did not reveal any concentrations above the laboratory quantitation limits in the TT-2610-3 and TT-2610-4 soil samples. The TT-2610-1 and TT-2610-2 soil sample analytical results revealed sec-Butylbenzene, 4-Isopropyltoluene, Naphthalene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene concentrations above the lowest (Soil-to-Groundwater) MSCC. The sec-Butylbenzene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene concentrations detected in the TT-2610-2 sample were also above the corresponding Residential MSCC.

EPA Method 8270

Laboratory analysis revealed site soil samples TT-2610-1, TT-2610-3, and TT-2610-4 were Below Quantitation Limits (BQL) for all EPA Method 8270 compounds. Soil sample TT-2610-1 contained Fluorene, 2-Methylnaphthalene, and Phenanthrene at concentrations above the STGW MSCCs. The TT-2610-2 Phenanthrene concentrations were also above the Residential MSCC. The TT-2610-2 2-Methylnaphthalene concentrations were also above the corresponding Residential



and Industrial / Commercial MSCCs.

### MADEP VPH/EPH

Laboratory analysis revealed site soil sample TT-2610-4 was Below Quantitation Limits (BQL) for all MADEP compounds. The TT-2610-1, TT-2610-2, and TT-2610-3 soil sample analytical results revealed minor C<sub>9</sub>-C<sub>18</sub> and C<sub>19</sub>-C<sub>36</sub> Aliphatics compound concentrations at levels below the corresponding MSCCs. The C<sub>9</sub>-C<sub>22</sub> Aromatics concentrations were detected above the STGW MSCC in samples TT-2610-1 and TT-2610-2.

## **D. CONCLUSIONS AND RECOMMENDATION**

A leaking UST and petroleum impacted soils were removed from the TT-2610 site. Two of the confirmation soil samples collected from the sidewalls of the final excavation limits (TT-2610-3 and TT-2610-4) revealed that no soil contaminants were detected at concentrations above the lowest applicable MSCCs. The TT-2610-1 and TT-2610-2 soil sample analytical results indicated residual petroleum contamination above the corresponding MSCCs.

Groundwater was encountered at the base of the excavation, approximately eight (8) feet BLS. No groundwater samples were collected during this investigation.

The TT-2610 building is scheduled for demolition. It is recommended that following the demolition of building TT-2610 the residual, petroleum impacted soils at and around the TT-2610-1 and TT-2610-2 soil sample locations be excavated and properly disposed. Following the subsequent excavation and soil disposal, additional sidewall confirmation soil samples should be collected for laboratory analysis. After the additional soil removal, a permanent groundwater monitoring well should be installed at the former UST basin, sampled, and the groundwater sample submitted for laboratory analysis.

The recommended soil removal, confirmation soil sampling, and groundwater water sampling should be conducted prior to new construction at the site. It is anticipated the additional work may be completed in late 2009. Pending subsequent soil removal confirmation sample results and groundwater sample results, the site may be eligible for "No Further Action" status.

## **E. SIGNATURE AND SEAL**

Signature and seal of certifying Professional Engineer:  
Michael E. Mason, PE



## **F. LIMITATIONS**

The soil samples analyzed as part of this investigation only provide isolated data points and may not represent conditions at every location in the project area. Analyses and conclusions of this report, being based on interpolation between data points at the project area, may not be completely representative of all site conditions. Conclusions and recommendations of this investigation and report are based on the best available data in an effort to comply with current regulatory requirements.

## **G. REFERENCES**

CATLIN Engineers and Scientists. *Workplan, UST Closure and Soil Disposal for Twenty Tank Locations at Tarawa Terrace*. Marine Corps Base, Camp Lejeune, NC. April 28, 2009.

North Carolina Department of Environment and Natural Resources. Division of Waste Management, Underground Storage Tank Section, *Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases*. March 1, 2007 Version, Change 3, Effective December 1, 2008.

## TABLES

**TABLE 1**  
**SUMMARY OF SOIL LABORATORY RESULTS - EPA METHOD 8015**

Incident Name and No.: TT-2610 - Pending

Sample ID	Contaminant of Concern →		Gasoline Range Organics	Diesel Range Organics
	Date Collected	Sample Depth (ft. BLS)		
NCDENR Action Level (mg/kg)			10	10
TT2610-B	5/7/2009	6.5	<5.02	<b>754</b>

All results in milligrams per kilogram (mg/kg).

ft. BLS = Feet Below Land Surface

NCDENR = North Carolina Department of Environment and Natural Resources

< = Less than reporting limit

**Bold** results indicate concentration above the NCDENR Action Level.

**TABLE 2  
SUMMARY OF SOIL LABORATORY RESULTS - EPA METHODS 8260 AND 8270 AND MADEP EPH AND VPH**

Incident Name and No.: TT-2610 - Pending

Sample ID	Contaminant of Concern →		EPA METHOD 8260B/5035							EPA METHOD 8270				MADEP EPH/VPH			
			sec-Butylbenzene	4-Isopropyltoluene	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	All other EPA Method 8260B/5035 Compounds	Fluorene	2-Methylnaphthalene	Phenanthrene	All Other EPA Method 8270 Compounds	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
<b>Residential MSCC (mg/kg)</b>			626	NE	313	782	782	3,129	Varies	620	63	469	Varies	939	9,386	93,860	469
<b>Industrial/Commercial MSCC (mg/kg)</b>			16,350	NE	8176	20,440	20,440	81,760	Varies	16,400	1,635	12,264	Varies	24,528	245,280	#	12,264
<b>STGW MSCC (mg/kg)</b>			3.3	NE	0.58	7.5	7.3	5	Varies	44	1.7	60	Varies	72	3,300	##	34
TT2610-1	5/7/2009	3 - 4	<b>23.7</b>	<b>12.6</b>	<b>7.11</b>	<b>82.3</b>	<b>20.6</b>	<u>&lt;17.86</u>	BQL	<u>&lt;356</u>	<u>&lt;356</u>	<u>&lt;356</u>	BQL	<10	99.30	<10	<b>89.40</b>
TT2610-2	5/7/2009	3 - 4	<b>653</b>	<b>426</b>	<b>285</b>	<b>3,380</b>	<b>874</b>	<u>&lt;859*</u>	BQL	<b>375</b>	<b>3,260</b>	<b>511</b>	BQL	<10	496.70	90.8	<b>342.60</b>
TT2610-3	5/7/2009	3 - 4	<u>&lt;5.31</u>	<5.31	<u>&lt;5.31</u>	<5.31	<5.31	<u>&lt;15.91</u>	BQL	<u>&lt;376</u>	<u>&lt;376</u>	<u>&lt;376</u>	BQL	<10	31.60	<10	<20
TT2610-4	5/7/2009	3 - 4	<u>&lt;5.35</u>	<5.35	<u>&lt;5.35</u>	<5.35	<5.35	<u>&lt;16.05</u>	BQL	<u>&lt;381</u>	<u>&lt;381</u>	<u>&lt;381</u>	BQL	<10	<10	<10	<20

All results in milligrams per kilogram (mg/kg).

BQL = Below Quantitation Limit

ft. BLS = Feet Below Land Surface

NE = None Established

< = Less than quantitation / reporting limit

STGW = Soil-to-Groundwater

MSCC = Maximum Soil Contaminant Concentration

# = Health-Based Level (>100%)

## = Considered Immobile

**Bold** results indicate concentration above the lowest MSCC.


Underlined results indicate the quantitation / reporting limit is greater than the lowest MSCC.

\* = The value represents the sum of the reported practical quantitation limit of one fraction and the detected concentration of the other fraction.

## FIGURES



Data Sources: Data Layers provided by MCB Camp Lejeune GIS Office.

 <p><b>CATLIN</b> Engineers and Scientists P.O. Box 10279 Wilmington, NC 28404-0279 (910) 452-5861 NC Engineering License No.: C-0585</p>	<p>PROJECT TANK CLOSURE REPORT SITE TT-2610 MARINE CORPS BASE CAMP LEJEUNE, NC</p>		<p>TITLE <b>USGS TOPOGRAPHIC SITE LOCATION MAP</b></p>		<p>FIGURE <b>1</b></p>
	<p>JOB NO. 209-025</p>	<p>DATE JULY 2009</p>	<p>SCALE AS SHOWN</p>	<p>DRAWN BY SAC</p>	

**TABLE 1  
SUMMARY OF SOIL LABORATORY RESULTS - EPA MEHTOD 8015**

Incident Name and No.: TT-2610 - Pending

Sample ID	Contaminant of Concern →		Gasoline Range Organics	Diesel Range Organics
	Date Collected	Sample Depth (ft. BLS)		
NCDENR Action Level (mg/kg)			10	10
TT2610-B	5/7/2009	6.5	<5.02	<b>754</b>

All results in milligrams per kilogram (mg/kg).  
ft. BLS = Feet Below Land Surface  
NCDENR = North Carolina Department of Environment and Natural Resources  
< = Less than reporting limit  
**Bold** results indicate concentration above the NCDENR Action Level.

**TABLE 2  
SUMMARY OF SOIL LABORATORY RESULTS - EPA METHODS 8260 AND 8270 AND MADEP EPH AND VPH**

Incident Name and No.: TT-2610 - Pending

Sample ID	Date Collected	Sample Depth (ft. BLS)	Contaminant of Concern →	EPA METHOD 8260B/5035								EPA METHOD 8270			MADEP EPH/VPH			
				sec-Butylbenzene	4-Isopropyltoluene	Naphthalene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	All other EPA Method 8260B/5035 Compounds	Fluorene	2-Methylnaphthalene	Phenanthrene	All Other EPA Method 8270 Compounds	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
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TT2610-3	5/7/2009	3 - 4		<u>&lt;5.31</u>	<u>&lt;5.31</u>	<u>&lt;5.31</u>	<u>&lt;5.31</u>	<u>&lt;5.31</u>	<u>&lt;15.91</u>	BQL	<u>&lt;376</u>	<u>&lt;376</u>	<u>&lt;376</u>	BQL	<10	31.60	<10	<20
TT2610-4	5/7/2009	3 - 4		<u>&lt;5.35</u>	<u>&lt;5.35</u>	<u>&lt;5.35</u>	<u>&lt;5.35</u>	<u>&lt;5.35</u>	<u>&lt;16.05</u>	BQL	<u>&lt;381</u>	<u>&lt;381</u>	<u>&lt;381</u>	BQL	<10	<10	<10	<20

All results in milligrams per kilogram (mg/kg).  
BQL = Below Quantitation Limit  
ft. BLS = Feet Below Land Surface  
NE = None Established  
< = Less than quantitation / reporting limit  
STGW = Soil-to-Groundwater  
MSCC = Maximum Soil Contaminant Concentration  
# = Health-Based Level (>100%)  
## = Considered Immobile  
**Bold** results indicate concentration above the lowest MSCC.  
Underlined results indicate the quantitation / reporting limit is greater than the lowest MSCC.  
\* = The value represents the sum of the reported practical quantitation limit of one fraction and the detected concentration of the other fraction.

**TANK REMOVAL  
SITE TT-2610  
MARINE CORPS BASE  
CAMP LEJEUNE, NC**



**LEGEND**

- Tank Excavation Area
- Soil Sample Location
- Buildings and Structures
- Slabs
- Driveways
- Parking Lots
- Woods

**NOTES**

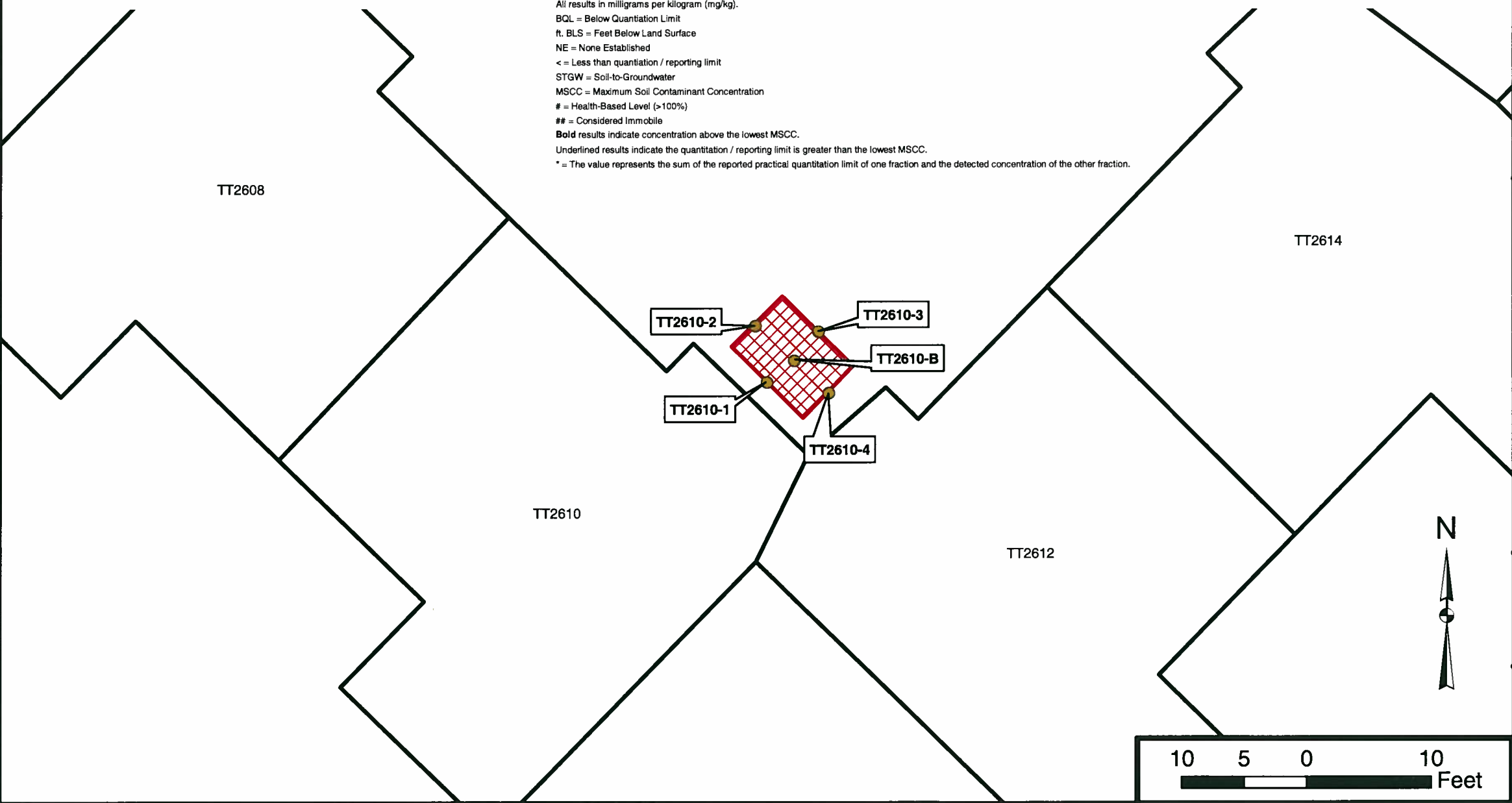
- Data layers provided by MCB Camp Lejeune GIS office.
- Excavation dimensions were approximately 8 feet by 6 feet by 8 feet deep.
- Excavation boundary and soil sample locations based on site sketch provided by MEC personnel.



**SITE MAP WITH SOIL LABORATORY RESULTS**

FIGURE  
**2**

Job No.: 209-025	Date: JULY 2009	Scale: AS SHOWN	Drawn By: SAC	Checked By: BA
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## APPENDICES

**APPENDIX A**

**SITE INVESTIGATION REPORT FOR PERMANENT CLOSURE OR CHANGE-IN-SERVICE OF UST (UST-2)**

# UST-2 Site Investigation Report for Permanent Closure or Change-in-Service of UST

**Return completed form to:**

The DWM Regional Office located in the area where the facility is located. Send a copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED" and your tank fee account can be closed out. SEE MAP ON THE BACK OF THIS FORM FOR THE CENTRAL AND REGIONAL OFFICE ADDRESSES.

STATE USE ONLY:

I.D. # \_\_\_\_\_

Date Received \_\_\_\_\_

**INSTRUCTIONS (READ THIS FIRST)**

For more than five UST systems you may attach additional forms as needed.

**Permanent closure** - For permanent closure, complete all sections of this form.

**Change-in-service** - For change-in-service where UST systems will be converted from containing a regulated substance to storing a non-regulated substance, complete sections I, II, III, IV, and VIII

Effective February 1, 1995, all UST closure/change-in-service reports must be submitted in the format provided in the UST-12 form. UST closure and change-in-services must be completed in accordance with the latest version of the *Guidelines for Tank Closure*. A copy of the UST-12 form and the *Guidelines for Tank Closure* can be obtained at [www.wastenotnc.org](http://www.wastenotnc.org).

You must make sure that USTs removed from your property are disposed of properly. When choosing a closure contractor, ask where the tank(s) will be taken for disposal. Usually, USTs are cleaned and cut up for scrap metal. This is dangerous work and must be performed by a qualified company. Tanks disposed of illegally in fields or other dumpsites can leak petroleum products and sludge into the environment. If your tanks are disposed of improperly, you could be held responsible for the cleanup of any environmental damage that occurs.

**NOTE:** If a release from the tank(s) has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G.

I. OWNERSHIP OF TANKS				II. LOCATION OF TANKS			
Owner Name (Corporation, Individual, Public Agency, or Other Entity) Commanding Officer, Marine Corps Base				Facility Name or Company Tarawa Terrace Housing			
Street Address Bldg 1 Holcumb Blvd				Facility ID # (if known) N/A			
City Camp Lejeune		County Onslow		Street Address TT2610 Bouganville Drive			
State NC		Zip Code 28542-0004		City Camp Lejeune		County Onslow	Zip Code 28542
Phone Number 910-451-9660				Phone Number			

**III. CONTACT PERSONNEL**

Contact for Facility: Bruce Markwick		Job Title: Environmental Protection Specialist		Phone No: 910-451-9660	
Closure Contractor Name: TMS		Closure Contractor Company:		Address: MEC-TMS Gas House Rd. Cherry Point	
Primary Consultant Name: Michael E. Mason		Primary Consultant Company: CATLIN Engineers & Scientists		Address: 220 Old Dairy Rd Wilmington, NC	
				Phone No: 910-452-5861	

IV. UST INFORMATION FOR REGISTERED UST SYSTEMS							V. EXCAVATION CONDITION					
Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Change-in-Service Date	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VI. UST INFORMATION FOR UNREGISTERED UST SYSTEMS							VII. EXCAVATION CONDITION					
Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Tank Owner Name *	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
1	550	4' x 6'	Heating Oil	Unknown	5/7/09	See Above	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* If the tank owner address is different from the one listed in Section I., then enter the street address, city, state, zip code and telephone no. below:

**VIII. CERTIFICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true accurate and complete.

Print name and official title of owner or owner's authorized representative Bruce Markwick	Signature 	Date Signed 7/28/09
-----------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------	------------------------

**APPENDIX B**

**24 HOUR RELEASE AND UST LEAK REPORTING FORM (UST-61)**

**UST-61****24-Hour Release and UST Leak Reporting Form.****For Releases  
in NC**

This form should be completed and submitted to the UST Section's regional office following a known or suspected release from an underground storage tank (UST) system. This form is required to be submitted within 24 hours of discovery of a known or suspected release

**(DWM USE ONLY)**  
Incident # \_\_\_\_\_ Risk (H,I,L,U) \_\_\_\_\_  
Received On \_\_\_\_\_ Received By \_\_\_\_\_  
Reported by (circle one): Phone, Fax or Report  
Region \_\_\_\_\_

Suspected Contamination? (Y/N) Y  
Confirmed GW Contamination? (Y/N) N  
Confirmed Soil Contamination? (Y/N) Y  
Samples Taken? (Y/N) Y  
Free Product? (Y/N) N If Yes, State Greatest Thickness \_\_\_\_\_

Facility ID Number N/A  
Date Leak Discovered 05/07/2009  
Commodity Non-Commercial  
Regulation Non-regulated

**INCIDENT DESCRIPTION**

Incident Name: TT2610 Heating Oil Tank

Address: TT2610 Bouganville Drive

County: Onslow

City/Town: Camp Lejeune

Zip Code: 28542

Regional Office (circle one): Asheville, Mooresville, Fayetteville, Raleigh, Washington, Wilmington, Winston-Salem

Latitude (decimal degrees): 34 44' 17.786" N Longitude (decimal degrees): 77 22' 36.884" W

Briefly describe suspected or confirmed release: (including but not limited to: nature of release, date of release, amount of release, amount of free product present and recovery efforts, initial responses conducted, impacts to receptors)

May 8, 2009 MEC identified and removed the TT2610 heating oil tank. All liquids were removed from the tank (approximately 500 gallons of fuel and water mixture) and disposed of at the EMD OWS at bldg 977. MEC & P & F Environmental removed the tank on 05/08/09 and there was evidence (visual) of a release from the tank. MEC took samples per the state requirements. All contaminated soil will be removed and properly disposed of per the regulatory requirements. A UST-12 report will follow.

Obtained by:

- GPS  
 Topographic map  
 GIS Address matching  
 Other  
 Unknown

Describe location:

**HOW RELEASE WAS DISCOVERED (Release Code)**

(Check one)

- Release Detection Equipment or Methods  
 During UST Closure/Removal  
 Property Transfer  
 Visual/Odor  
 Water in Tank  
 Water Supply Well Contamination  
 Groundwater Contamination  
 Surface Water Contamination  
 Other (specify) \_\_\_\_\_

**SOURCE OF CONTAMINATION****Source of Release**

(Check one to indicate primary source)

- Tank  
 Piping  
 Dispenser  
 Submersible Turbine Pump  
 Delivery Problem  
 Other  
 Unknown

Definitions presented on reverse

**Cause of Release**

(Check one to indicate primary cause)

- Spill  
 Overfill  
 Corrosion  
 Physical or Mechanical Damage  
 Install Problem  
 Other  
 Unknown

Definitions presented on reverse

**Type of Release**

(Check one)

- Petroleum  
 Non-Petroleum  
 Both

**Location**

(Check one)

- Facility  
 Residence  
 Other

**Product Type Released**

(Check one to indicate primary product type released)

- Gasoline/ Diesel/ Kerosene  
 Heating Oil  
 Other Petroleum Products  
 Metals  
 Other Inorganics  
 Other Organics  
 Diesel/Veg. Oil Blend  
 Vegetable Oil 100%  
 E10 - E20  
 E21 - E84  
 E85 - E99  
 Ethanol 100%  
 E01 - E09

**Ownership**

1. Municipal 2. Military 3. Unknown 4. Private 5. Federal 6. County 7. State

**Operation Type**

1. Public Service 2. Agricultural 3. Residential 4. Education/Relig. 5. Industrial 6. Commercial 7. Mining

## IMPACT ON DRINKING WATER SUPPLIES

Water Supply Wells Affected?    1. Yes    **2. No**    3. Unknown

Number of Water Supply Wells Affected \_\_\_\_\_

Water Supply Wells Contaminated: *(Include Users Names, Addresses and Phone Numbers. Attach additional sheet if necessary)*

- 1.
- 2.
- 3.

### UST SYSTEM OWNER

UST Owner/Company  
Commanding Officer, Marine Corps Base,

Point of Contact Bruce Markwick		Address	
City Camp Lejeune	State NC	Zip Code 28542	Telephone Number 910 451-9660

### UST SYSTEM OPERATOR

UST Operator/Company Same as above		Address	
City	State	Zip Code	Telephone Number

### LANDOWNER AT LOCATION OF UST INCIDENT

Landowner Same as above		Address	
City	State	Zip Code	Telephone Number

### Draw Sketch of Area (showing two major road intersections) or Attach Map

Person Reporting Incident	Bruce Markwick	Company	Military/USMC	Telephone Number	910 451-9660
Title	Environmental Protection Specialist	Address	Bldg 12 Post Lane, Camp Lejeune, NC 28542	Date	05/09/09

UST Form 61 (02/08)

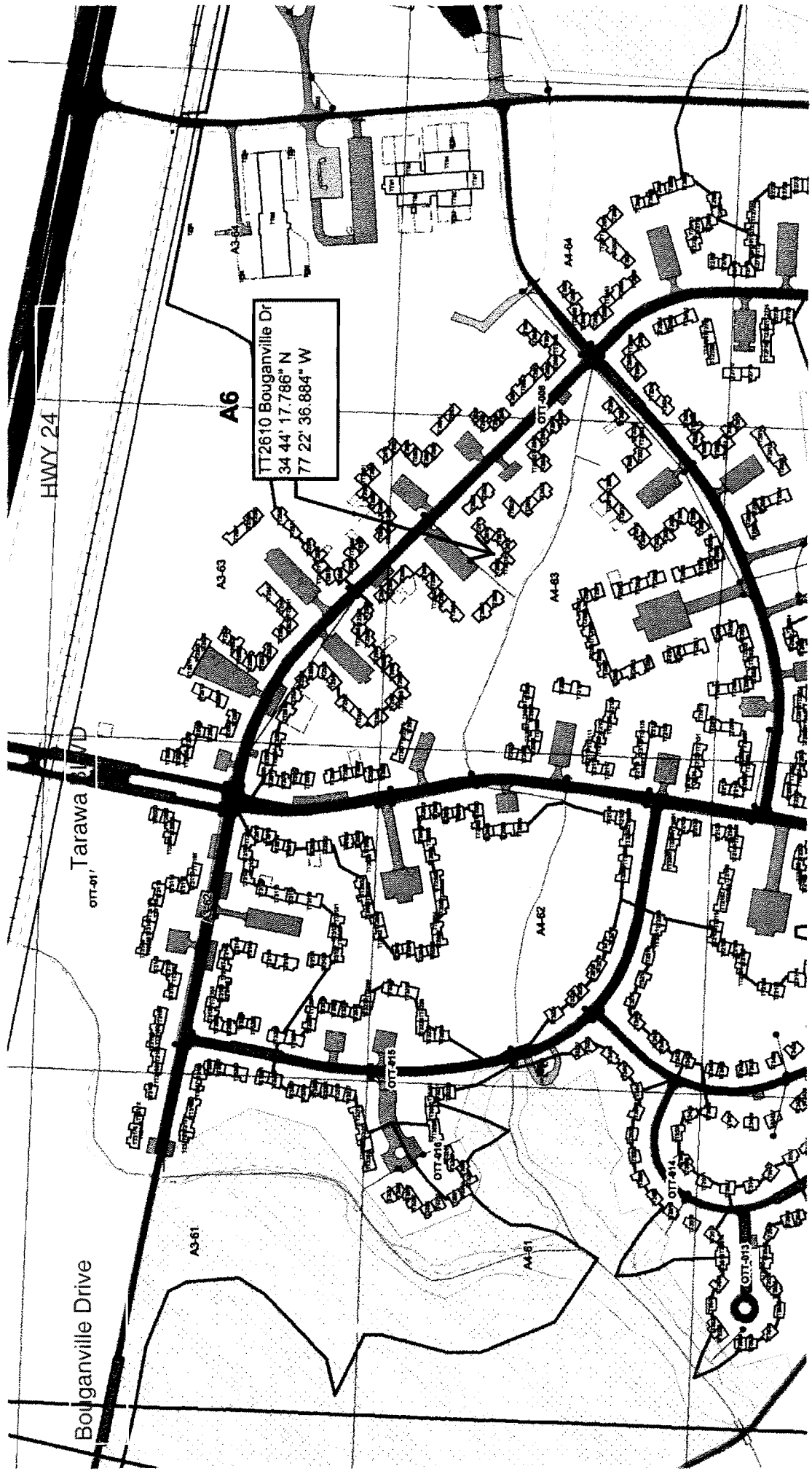
Page 2 of 2

#### Definitions of Sources

- Tank:** means the tank that stores the product and is part of the underground storage tank system
- Piping:** means the piping and connectors running from the tank or submersible turbine pump to the dispenser or other end-use equipment (Vent, vapor recovery, or fill lines are excluded.)
- Dispenser:** includes the dispenser and the equipment used to connect the dispenser to the piping (e.g., a release from a suction pump or from components located above the shear valve)
- Submersible Turbine Pump (STP) Area** includes the submersible turbine pump head (typically located in the tank sump), the line leak detector, and the piping that connects the submersible turbine pump to the tank
- Delivery Problem:** identifies releases that occurred during product delivery to the tank. (Typical causes associated with this source are spills and overfills.)
- Other:** serves as the option to use when the release source is known but does not fit into one of the preceding categories (e.g., for releases from vent lines, vapor recovery lines, and fill lines)
- Unknown:** identifies releases for which the source has not been determined

#### Definitions of Causes

- Spill:** use this cause when a spill occurs (e.g., when the delivery hose is disconnected from the tank fill pipe or when the nozzle is removed from the dispenser)
- Overfill:** use when an overfill occurs (e.g., overfills may occur from the fill pipe at the tank or when the nozzle fails to shut off at the dispenser)
- Physical or Mechanical Damage:** use for all types of physical or mechanical damage, except corrosion (e.g., puncture of tank or piping, loose fittings, broken components, and components that have changed dimension)
- Corrosion:** use when a metal tank, piping, or other component has a release due to corrosion (e.g., for steel, corrosion takes the form of rust)
- Installation Problem:** use when the problem is determined to have occurred specifically because the UST system was not installed properly
- Other:** use this option when the cause is known but does not fit into one of the preceding categories (e.g., putting regulated substances into monitoring wells)
- Unknown:** use when the cause has not been determined



HWY 24

Bouganville Drive

Tarawa Drive

A6

TT2610 Bouganville Dr  
34 44' 17.786" N  
77 22' 36.884" W

**APPENDIX C**  
**CERTIFICATE OF UST DISPOSAL**



# Tank Disposal Manifest

**Tank Owner:**

**Commanding Officer, Marine Corps Base, Camp Lejeune**

**Tank/Owner Authorized Representative**

**Contact: Bruce Markwick**

**Phone #: 910 451-9660**

**Primary Consultant:**

**Description Of tank:**

Tank I.D.	Capacity/Dimensions	Previous Contents	Comments
TT-2001	550 gal / 4x6'	#2 Fuel Oil	Small Hole Side
TT-2560	550 gal / 4x6'	#2 Fuel Oil	1 Small Hole in end.
TT-2554	550 gal / 4x6'	#2 Fuel Oil	Small Hole Side
TT-2610	550 gal / 4x6'	#2 Fuel Oil	Large Holes Side
TT-2646	550 gal / 4x6'	#2 Fuel Oil	Holes in Ends
TT-3007	550 gal / 4x6'	#2 Fuel Oil	Holes in Ends/Sides

**Transporter:**

The undersigned certifies that the above named storage tank (s) have been turned in for recycling.

Bryant Pridgen Bryant Pridgen 5-7-09  
 \_\_\_\_\_  
 Print Name                                      Signature                                      Month/Day/Year

**Name of Receiving Facility:**  
JACKSONVILLE SCRAP IRON + METAL  
 \_\_\_\_\_

**Received by:**  
DAVID ROBERTS David Roberts 5-7-09  
 \_\_\_\_\_  
 Print Name                                      Signature                                      Month/Day/Year

**APPENDIX D**  
**DISPOSAL MANIFESTS**

# P & F Environmental

4352 N. Old Carriage Road • Rocky Mount, NC 27804

Phone: (252) 443-4083 • Fax: (252) 443-4104

## NON-HAZARDOUS WASTE MANIFEST

07412

APPROVAL# 11125

LOAD # \_\_\_\_\_

### GENERATOR

TT-II / Phase 6  
Camp Lejeune  
Jacksonville NC

### DESTINATION

Land Application Facility Permit No. SR0500106  
Speights Chapel Road  
Whitakers, NC 27891

PHONE: \_\_\_\_\_

PHONE: (252) 443-4083

WASTE DESCRIPTION:

Non-Hazardous Petroleum Contaminated Soil

WASTE ORIGINATION: \_\_\_\_\_

Transporter: P & F Environmental

Gross Weight (lbs.): 75660

Truck #: PF 105

Tare Weight (lbs.): 24500

Truck Tag #/State: ZB 37964

Net Weight (lbs.): 51160

Driver Name (Print): Bryant Pridgen

Net Weight (tons): 25.58

I hereby certify that the material stated herein was received at the waste origination site listed.

I hereby certify that the material stated herein was delivered without incident to the destination listed.

Bryant Pridgen 5.26.09  
Driver Signature Date

Bryant Pridgen 5.26.09  
Driver Signature Date

Inspected and Accepted By: \_\_\_\_\_

[Signature] James Pridgen

### NOTICE TO TRANSPORTER

TRUCKS WILL NOT BE PERMITTED TO ENTER  
THE FACILITY WITHOUT THIS ENTRANCE TICKET

WHITE - Invoice

YELLOW - Generator

PINK - Trucker

GOLD - P & F Environmental

# P & F Environmental

4352 N. Old Carriage Road • Rocky Mount, NC 27804

Phone: (252) 443-4083 • Fax: (252) 443-4104

## NON-HAZARDOUS WASTE MANIFEST

APPROVAL # 11125

LOAD # 07414

### GENERATOR

T.T. II / Phase 6  
Camp Lejeune  
Jacksonville NC

### DESTINATION

Land Application Facility Permit No. SR0500106  
Speights Chapel Road  
Whitakers, NC 27891

PHONE: \_\_\_\_\_

PHONE: (252) 443-4083

WASTE DESCRIPTION:

Non-Hazardous Petroleum Contaminated Soil

WASTE ORIGINATION: \_\_\_\_\_

Transporter: P & F Environmental

Gross Weight (lbs.): 75860

Truck #: PF 103

Tare Weight (lbs.): 33060

Truck Tag #/State: ZB 16949

Net Weight (lbs.): 42800

Driver Name (Print): Walter Parker

Net Weight (tons): 21.4

I hereby certify that the material stated herein was received at the waste origination site listed.

I hereby certify that the material stated herein was delivered without incident to the destination listed.

Walter Parker 5.26.09  
Driver Signature Date

Walter Parker 5.26.09  
Driver Signature Date

Inspected and Accepted By: \_\_\_\_\_

### NOTICE TO TRANSPORTER

**TRUCKS WILL NOT BE PERMITTED TO ENTER  
THE FACILITY WITHOUT THIS ENTRANCE TICKET**

WHITE - Invoice

YELLOW - Generator

PINK - Trucker

GOLD - P & F Environmental

# P & F Environmental

4352 N. Old Carriage Road • Rocky Mount, NC 27804

Phone: (252) 443-4083 • Fax: (252) 443-4104

## NON-HAZARDOUS WASTE MANIFEST

APPROVAL# 11125

LOAD # 07413

### GENERATOR

TT II / Phase 6  
Camp Lejeune  
Jacksonville NC

### DESTINATION

Land Application Facility Permit No. SR0500106  
Speights Chapel Road  
Whitakers, NC 27891

PHONE: \_\_\_\_\_

PHONE: (252) 443-4083

WASTE DESCRIPTION:

Non-Hazardous Petroleum Contaminated Soil

WASTE ORIGINATION: \_\_\_\_\_

Transporter: P & F Environmental

Gross Weight (lbs.): 65020

Truck #: PF 101

Tare Weight (lbs.): 23560

Truck Tag #/State: ZB 12254

Net Weight (lbs.): 41460

Driver Name (Print): Franklin Rhodes

Net Weight (tons): 20.73

I hereby certify that the material stated herein was received at the waste origination site listed.

I hereby certify that the material stated herein was delivered without incident to the destination listed.

Franklin Rhodes 5.26.09  
Driver Signature Date

Franklin Rhodes 5.26.09  
Driver Signature Date

Inspected and Accepted By: \_\_\_\_\_

James Bridger

### NOTICE TO TRANSPORTER

**TRUCKS WILL NOT BE PERMITTED TO ENTER  
THE FACILITY WITHOUT THIS ENTRANCE TICKET**

WHITE - Invoice

YELLOW - Generator

PINK - Trucker

GOLD - P & F Environmental

**APPENDIX E**

**LABORATORY REPORTS AND  
CHAIN-OF-CUSTODY DOCUMENTATION**



Rob Finley  
MEC Corporation  
MEC Laydown Area  
MCAS Cherry Point, NC 28533

Report Number: G894-149

Client Project: TT-2610

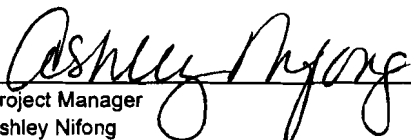
Dear Rob Finley,

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or services performed during this project, please call Ashley Nifong at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS Environmental Services, Inc.

 5/14/09  
Project Manager Date  
Ashley Nifong

SGS North America, Inc.

**Case Narrative**  
MEC Corporation  
SGS Project: **G894-149**  
Project Name: **TT-2610**

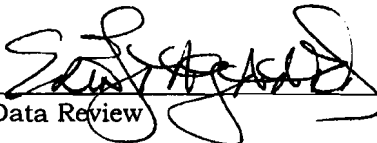
**SGS Environmental Services Inc.**

**May 14, 2009**

- Five soil samples were accepted into the laboratory on May 8, 2009 at 1010 for analyses as indicated on the chain of custody. The samples were received in good condition, with a temperature of 2.4°C.
- All analyses were completed within holding time limits with the following quality control exceptions.

VPH Analysis

- The samples were received in 4oz. jars requiring the laboratory to prepare the samples using method 5030. This deviation from the method may result in a potential low bias. The samples were preserved using Methanol with a 5g aliquot within 48 hours of collection.

 \_\_\_\_\_ Date 14/14/09

Data Review



SGS North America, Inc.

List of Reporting Abbreviations  
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

M134.021808.4

SGS North America, Inc.

**Results for Volatiles  
by GCMS 8260-5030**

Client Sample ID: TT2610-1  
 Client Project ID: TT-2610  
 Lab Sample ID G894-149-1A  
 Lab Project ID: G894-149  
 Report Basis: Dry Weight

Analyzed By: MJC  
 Date Collected: 05-07-2009 14:30  
 Date Received: 5/8/2009  
 Matrix: Soil  
 Sample Amount: 5.15 g  
 %Solids: 81.3

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	59.6	1	5/12/2009
Benzene	BQL	5.96	1	5/12/2009
Bromobenzene	BQL	5.96	1	5/12/2009
Bromochloromethane	BQL	5.96	1	5/12/2009
Bromodichloromethane	BQL	5.96	1	5/12/2009
Bromoform	BQL	5.96	1	5/12/2009
Bromomethane	BQL	5.96	1	5/12/2009
2-Butanone	BQL	29.8	1	5/12/2009
n-Butylbenzene	BQL	5.96	1	5/12/2009
sec-Butylbenzene	23.7	5.96	1	5/12/2009
tert-Butylbenzene	BQL	5.96	1	5/12/2009
Carbon disulfide	BQL	5.96	1	5/12/2009
Carbon tetrachloride	BQL	5.96	1	5/12/2009
Chlorobenzene	BQL	5.96	1	5/12/2009
Chloroethane	BQL	5.96	1	5/12/2009
Chloroform	BQL	5.96	1	5/12/2009
Chloromethane	BQL	5.96	1	5/12/2009
2-Chlorotoluene	BQL	5.96	1	5/12/2009
4-Chlorotoluene	BQL	5.96	1	5/12/2009
Dibromochloromethane	BQL	5.96	1	5/12/2009
1,2-Dibromo-3-chloropropane	BQL	5.96	1	5/12/2009
Dibromomethane	BQL	5.96	1	5/12/2009
1,2-Dibromoethane (EDB)	BQL	5.96	1	5/12/2009
1,2-Dichlorobenzene	BQL	5.96	1	5/12/2009
1,3-Dichlorobenzene	BQL	5.96	1	5/12/2009
1,4-Dichlorobenzene	BQL	5.96	1	5/12/2009
trans-1,4-Dichloro-2-butene	BQL	5.96	1	5/12/2009
1,1-Dichloroethane	BQL	5.96	1	5/12/2009
1,1-Dichloroethene	BQL	5.96	1	5/12/2009
1,2-Dichloroethane	BQL	5.96	1	5/12/2009
cis-1,2-Dichloroethene	BQL	5.96	1	5/12/2009
trans-1,2-dichloroethene	BQL	5.96	1	5/12/2009
1,2-Dichloropropane	BQL	5.96	1	5/12/2009
1,3-Dichloropropane	BQL	5.96	1	5/12/2009
2,2-Dichloropropane	BQL	5.96	1	5/12/2009
1,1-Dichloropropene	BQL	5.96	1	5/12/2009
cis-1,3-Dichloropropene	BQL	5.96	1	5/12/2009
trans-1,3-Dichloropropene	BQL	5.96	1	5/12/2009
Dichlorodifluoromethane	BQL	5.96	1	5/12/2009
Diisopropyl ether (DIPE)	BQL	5.96	1	5/12/2009
Ethylbenzene	BQL	5.96	1	5/12/2009
Hexachlorobutadiene	BQL	5.96	1	5/12/2009
2-Hexanone	BQL	5.96	1	5/12/2009
Iodomethane	BQL	5.96	1	5/12/2009



SGS North America, Inc.

**Results for Volatiles  
by GCMS 8260B/5030**

Client Sample ID: TT2610-2  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-2B  
 Lab Project ID: G894-149  
 Report Basis: Dry Weight

Analyzed By: DVO  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Matrix: Soil  
 Sample Amount: 5.5 g  
 %Solids: 81.6

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	4460	160	5/12/2009
Benzene	BQL	178	160	5/12/2009
Bromobenzene	BQL	178	160	5/12/2009
Bromochloromethane	BQL	178	160	5/12/2009
Bromodichloromethane	BQL	178	160	5/12/2009
Bromoform	BQL	178	160	5/12/2009
Bromomethane	BQL	178	160	5/12/2009
2-Butanone	BQL	4460	160	5/12/2009
n-Butylbenzene	BQL	178	160	5/12/2009
sec-Butylbenzene	653	178	160	5/12/2009
tert-Butylbenzene	BQL	178	160	5/12/2009
Carbon disulfide	BQL	178	160	5/12/2009
Carbon tetrachloride	BQL	178	160	5/12/2009
Chlorobenzene	BQL	178	160	5/12/2009
Chloroethane	BQL	178	160	5/12/2009
Chloroform	BQL	178	160	5/12/2009
Chloromethane	BQL	178	160	5/12/2009
2-Chlorotoluene	BQL	178	160	5/12/2009
4-Chlorotoluene	BQL	178	160	5/12/2009
Dibromochloromethane	BQL	178	160	5/12/2009
1,2-Dibromo-3-chloropropane	BQL	891	160	5/12/2009
Dibromomethane	BQL	178	160	5/12/2009
1,2-Dibromoethane (EDB)	BQL	178	160	5/12/2009
1,2-Dichlorobenzene	BQL	178	160	5/12/2009
1,3-Dichlorobenzene	BQL	178	160	5/12/2009
1,4-Dichlorobenzene	BQL	178	160	5/12/2009
trans-1,4-Dichloro-2-butene	BQL	891	160	5/12/2009
1,1-Dichloroethane	BQL	178	160	5/12/2009
1,1-Dichloroethene	BQL	178	160	5/12/2009
1,2-Dichloroethane	BQL	178	160	5/12/2009
cis-1,2-Dichloroethene	BQL	178	160	5/12/2009
trans-1,2-dichloroethene	BQL	178	160	5/12/2009
1,2-Dichloropropane	BQL	178	160	5/12/2009
1,3-Dichloropropane	BQL	178	160	5/12/2009
2,2-Dichloropropane	BQL	178	160	5/12/2009
1,1-Dichloropropene	BQL	178	160	5/12/2009
cis-1,3-Dichloropropene	BQL	178	160	5/12/2009
trans-1,3-Dichloropropene	BQL	178	160	5/12/2009
Dichlorodifluoromethane	BQL	891	160	5/12/2009
Diisopropyl ether (DIPE)	BQL	178	160	5/12/2009
Ethylbenzene	BQL	178	160	5/12/2009
Hexachlorobutadiene	BQL	178	160	5/12/2009
2-Hexanone	BQL	891	160	5/12/2009
Iodomethane	BQL	178	160	5/12/2009
Isopropylbenzene	BQL	178	160	5/12/2009
4-Isopropyltoluene	426	178	160	5/12/2009

SGS North America, Inc.

**Results for Volatiles  
by GCMS 8260B/5030**

Client Sample ID: TT2610-2  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-2B  
 Lab Project ID: G894-149  
 Report Basis: Dry Weight

Analyzed By: DVO  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Matrix: Soil  
 Sample Amount: 5.5 g  
 %Solids: 81.6

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Methylene chloride	BQL	891	160	5/12/2009
4-Methyl-2-pentanone	BQL	891	160	5/12/2009
Methyl-tert-butyl ether (MTBE)	BQL	178	160	5/12/2009
Naphthalene	<b>285</b>	178	160	5/12/2009
n-Propyl benzene	BQL	178	160	5/12/2009
Styrene	BQL	178	160	5/12/2009
1,1,1,2-Tetrachloroethane	BQL	178	160	5/12/2009
1,1,2,2-Tetrachloroethane	BQL	178	160	5/12/2009
Tetrachloroethane	BQL	178	160	5/12/2009
Toluene	BQL	178	160	5/12/2009
1,2,3-Trichlorobenzene	BQL	178	160	5/12/2009
1,2,4-Trichlorobenzene	BQL	178	160	5/12/2009
Trichloroethene	BQL	178	160	5/12/2009
1,1,1-Trichloroethane	BQL	178	160	5/12/2009
1,1,2-Trichloroethane	BQL	178	160	5/12/2009
Trichlorofluoromethane	BQL	178	160	5/12/2009
1,2,3-Trichloropropane	BQL	178	160	5/12/2009
1,2,4-Trimethylbenzene	<b>3380</b>	178	160	5/12/2009
1,3,5-Trimethylbenzene	<b>874</b>	178	160	5/12/2009
Vinyl chloride	BQL	178	160	5/12/2009
m-,p-Xylene	<b>681</b>	357	160	5/12/2009
o-Xylene	BQL	178	160	5/12/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	10	8.48	85
Toluene-d8	10	10.6	106
4-Bromofluorobenzene	10	10.4	104

**Comments:**

**Flags:**

BQL = Below Quantitation Limits.

Analyst: Per DVO

Reviewed By: [Signature]

SGS North America, Inc.

**Results for Volatiles  
by GCMS 8260-5030**

Client Sample ID: TT2610-3  
 Client Project ID: TT-2610  
 Lab Sample ID G894-149-3A  
 Lab Project ID: G894-149  
 Report Basis: Dry Weight

Analyzed By: MJC  
 Date Collected: 05-07-2009 14:30  
 Date Received: 5/8/2009  
 Matrix: Soil  
 Sample Amount: 5.94 g  
 %Solids: 79.3

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	53.1	1	5/12/2009
Benzene	BQL	5.31	1	5/12/2009
Bromobenzene	BQL	5.31	1	5/12/2009
Bromochloromethane	BQL	5.31	1	5/12/2009
Bromodichloromethane	BQL	5.31	1	5/12/2009
Bromoform	BQL	5.31	1	5/12/2009
Bromomethane	BQL	5.31	1	5/12/2009
2-Butanone	BQL	26.6	1	5/12/2009
n-Butylbenzene	BQL	5.31	1	5/12/2009
sec-Butylbenzene	BQL	5.31	1	5/12/2009
tert-Butylbenzene	BQL	5.31	1	5/12/2009
Carbon disulfide	BQL	5.31	1	5/12/2009
Carbon tetrachloride	BQL	5.31	1	5/12/2009
Chlorobenzene	BQL	5.31	1	5/12/2009
Chloroethane	BQL	5.31	1	5/12/2009
Chloroform	BQL	5.31	1	5/12/2009
Chloromethane	BQL	5.31	1	5/12/2009
2-Chlorotoluene	BQL	5.31	1	5/12/2009
4-Chlorotoluene	BQL	5.31	1	5/12/2009
Dibromochloromethane	BQL	5.31	1	5/12/2009
1,2-Dibromo-3-chloropropane	BQL	5.31	1	5/12/2009
Dibromomethane	BQL	5.31	1	5/12/2009
1,2-Dibromoethane (EDB)	BQL	5.31	1	5/12/2009
1,2-Dichlorobenzene	BQL	5.31	1	5/12/2009
1,3-Dichlorobenzene	BQL	5.31	1	5/12/2009
1,4-Dichlorobenzene	BQL	5.31	1	5/12/2009
trans-1,4-Dichloro-2-butene	BQL	5.31	1	5/12/2009
1,1-Dichloroethane	BQL	5.31	1	5/12/2009
1,1-Dichloroethene	BQL	5.31	1	5/12/2009
1,2-Dichloroethane	BQL	5.31	1	5/12/2009
cis-1,2-Dichloroethene	BQL	5.31	1	5/12/2009
trans-1,2-dichloroethene	BQL	5.31	1	5/12/2009
1,2-Dichloropropane	BQL	5.31	1	5/12/2009
1,3-Dichloropropane	BQL	5.31	1	5/12/2009
2,2-Dichloropropane	BQL	5.31	1	5/12/2009
1,1-Dichloropropene	BQL	5.31	1	5/12/2009
cis-1,3-Dichloropropene	BQL	5.31	1	5/12/2009
trans-1,3-Dichloropropene	BQL	5.31	1	5/12/2009
Dichlorodifluoromethane	BQL	5.31	1	5/12/2009
Diisopropyl ether (DIPE)	BQL	5.31	1	5/12/2009
Ethylbenzene	BQL	5.31	1	5/12/2009
Hexachlorobutadiene	BQL	5.31	1	5/12/2009
2-Hexanone	BQL	5.31	1	5/12/2009
Iodomethane	BQL	5.31	1	5/12/2009

SGS North America, Inc.

Results for Volatiles  
by GCMS 8260-5030

Client Sample ID: TT2610-3  
Client Project ID: TT-2610  
Lab Sample ID G894-149-3A  
Lab Project ID: G894-149  
Report Basis: Dry Weight

Analyzed By: MJC  
Date Collected: 05-07-2009 14:30  
Date Received: 5/8/2009  
Matrix: Soil  
Sample Amount: 5.94 g  
%Solids: 79.3

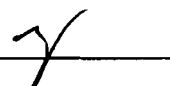
Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	5.31	1	5/12/2009
4-Isopropyltoluene	BQL	5.31	1	5/12/2009
Methylene chloride	BQL	21.2	1	5/12/2009
4-Methyl-2-pentanone	BQL	5.31	1	5/12/2009
Methyl-tert-butyl ether (MTBE)	BQL	5.31	1	5/12/2009
Naphthalene	BQL	5.31	1	5/12/2009
n-Propyl benzene	BQL	5.31	1	5/12/2009
Styrene	BQL	5.31	1	5/12/2009
1,1,1,2-Tetrachloroethane	BQL	5.31	1	5/12/2009
1,1,2,2-Tetrachloroethane	BQL	5.31	1	5/12/2009
Tetrachloroethene	BQL	5.31	1	5/12/2009
Toluene	BQL	5.31	1	5/12/2009
1,2,3-Trichlorobenzene	BQL	5.31	1	5/12/2009
1,2,4-Trichlorobenzene	BQL	5.31	1	5/12/2009
Trichloroethene	BQL	5.31	1	5/12/2009
1,1,1-Trichloroethane	BQL	5.31	1	5/12/2009
1,1,2-Trichloroethane	BQL	5.31	1	5/12/2009
Trichlorofluoromethane	BQL	5.31	1	5/12/2009
1,2,3-Trichloropropane	BQL	5.31	1	5/12/2009
1,2,4-Trimethylbenzene	BQL	5.31	1	5/12/2009
1,3,5-Trimethylbenzene	BQL	5.31	1	5/12/2009
Vinyl chloride	BQL	5.31	1	5/12/2009
m-,p-Xylene	BQL	10.6	1	5/12/2009
o-Xylene	BQL	5.31	1	5/12/2009


	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	49.9	100
Toluene-d8	50	47.6	95
4-Bromofluorobenzene	50	52.3	105

Comments:

Flags:

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

SGS North America, Inc.

**Results for Volatiles  
by GCMS 8260-5030**

Client Sample ID: TT2610-4  
 Client Project ID: TT-2610  
 Lab Sample ID G894-149-4A  
 Lab Project ID: G894-149  
 Report Basis: Dry Weight

Analyzed By: MJC  
 Date Collected: 05-07-2009 14:30  
 Date Received: 5/8/2009  
 Matrix: Soil  
 Sample Amount: 5.88 g  
 %Solids: 79.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	53.5	1	5/12/2009
Benzene	BQL	5.35	1	5/12/2009
Bromobenzene	BQL	5.35	1	5/12/2009
Bromochloromethane	BQL	5.35	1	5/12/2009
Bromodichloromethane	BQL	5.35	1	5/12/2009
Bromoform	BQL	5.35	1	5/12/2009
Bromomethane	BQL	5.35	1	5/12/2009
2-Butanone	BQL	26.7	1	5/12/2009
n-Butylbenzene	BQL	5.35	1	5/12/2009
sec-Butylbenzene	BQL	5.35	1	5/12/2009
tert-Butylbenzene	BQL	5.35	1	5/12/2009
Carbon disulfide	BQL	5.35	1	5/12/2009
Carbon tetrachloride	BQL	5.35	1	5/12/2009
Chlorobenzene	BQL	5.35	1	5/12/2009
Chloroethane	BQL	5.35	1	5/12/2009
Chloroform	BQL	5.35	1	5/12/2009
Chloromethane	BQL	5.35	1	5/12/2009
2-Chlorotoluene	BQL	5.35	1	5/12/2009
4-Chlorotoluene	BQL	5.35	1	5/12/2009
Dibromochloromethane	BQL	5.35	1	5/12/2009
1,2-Dibromo-3-chloropropane	BQL	5.35	1	5/12/2009
Dibromomethane	BQL	5.35	1	5/12/2009
1,2-Dibromoethane (EDB)	BQL	5.35	1	5/12/2009
1,2-Dichlorobenzene	BQL	5.35	1	5/12/2009
1,3-Dichlorobenzene	BQL	5.35	1	5/12/2009
1,4-Dichlorobenzene	BQL	5.35	1	5/12/2009
trans-1,4-Dichloro-2-butene	BQL	5.35	1	5/12/2009
1,1-Dichloroethane	BQL	5.35	1	5/12/2009
1,1-Dichloroethene	BQL	5.35	1	5/12/2009
1,2-Dichloroethane	BQL	5.35	1	5/12/2009
cis-1,2-Dichloroethene	BQL	5.35	1	5/12/2009
trans-1,2-dichloroethene	BQL	5.35	1	5/12/2009
1,2-Dichloropropane	BQL	5.35	1	5/12/2009
1,3-Dichloropropane	BQL	5.35	1	5/12/2009
2,2-Dichloropropane	BQL	5.35	1	5/12/2009
1,1-Dichloropropene	BQL	5.35	1	5/12/2009
cis-1,3-Dichloropropene	BQL	5.35	1	5/12/2009
trans-1,3-Dichloropropene	BQL	5.35	1	5/12/2009
Dichlorodifluoromethane	BQL	5.35	1	5/12/2009
Diisopropyl ether (DIPE)	BQL	5.35	1	5/12/2009
Ethylbenzene	BQL	5.35	1	5/12/2009
Hexachlorobutadiene	BQL	5.35	1	5/12/2009
2-Hexanone	BQL	5.35	1	5/12/2009
Iodomethane	BQL	5.35	1	5/12/2009



SGS North America, Inc.

**Results for Volatiles  
by GCMS 8260-5030**

Client Sample ID: TT2610-4  
 Client Project ID: TT-2610  
 Lab Sample ID G894-149-4A  
 Lab Project ID: G894-149  
 Report Basis: Dry Weight

Analyzed By: MJC  
 Date Collected: 05-07-2009 14:30  
 Date Received: 5/8/2009  
 Matrix: Soil  
 Sample Amount: 5.88 g  
 %Solids: 79.4

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Isopropylbenzene	BQL	5.35	1	5/12/2009
4-Isopropyltoluene	BQL	5.35	1	5/12/2009
Methylene chloride	BQL	21.4	1	5/12/2009
4-Methyl-2-pentanone	BQL	5.35	1	5/12/2009
Methyl-tert-butyl ether (MTBE)	BQL	5.35	1	5/12/2009
Naphthalene	BQL	5.35	1	5/12/2009
n-Propyl benzene	BQL	5.35	1	5/12/2009
Styrene	BQL	5.35	1	5/12/2009
1,1,1,2-Tetrachloroethane	BQL	5.35	1	5/12/2009
1,1,2,2-Tetrachloroethane	BQL	5.35	1	5/12/2009
Tetrachloroethene	BQL	5.35	1	5/12/2009
Toluene	BQL	5.35	1	5/12/2009
1,2,3-Trichlorobenzene	BQL	5.35	1	5/12/2009
1,2,4-Trichlorobenzene	BQL	5.35	1	5/12/2009
Trichloroethene	BQL	5.35	1	5/12/2009
1,1,1-Trichloroethane	BQL	5.35	1	5/12/2009
1,1,2-Trichloroethane	BQL	5.35	1	5/12/2009
Trichlorofluoromethane	BQL	5.35	1	5/12/2009
1,2,3-Trichloropropane	BQL	5.35	1	5/12/2009
1,2,4-Trimethylbenzene	BQL	5.35	1	5/12/2009
1,3,5-Trimethylbenzene	BQL	5.35	1	5/12/2009
Vinyl chloride	BQL	5.35	1	5/12/2009
m-,p-Xylene	BQL	10.7	1	5/12/2009
o-Xylene	BQL	5.35	1	5/12/2009

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	50	45.7	91
Toluene-d8	50	47.4	95
4-Bromofluorobenzene	50	51.5	103

**Comments:**

**Flags:**

BQL = Below Quantitation Limits.

Analyst: 

Reviewed By: 

**Results for Semivolatiles  
by GCMS 8270**

Client Sample ID: TT2610-1  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-1D  
 Lab Project ID: G894-149  
 Report Basis: Dry weight  
 Initial Weight: 34.54 g

Analyzed By: DCS  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Date Extracted: 5/8/2009  
 Matrix: Soil  
 % Solids: 81.27

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	356	1	5/14/2009
Acenaphthylene	BQL	356	1	5/14/2009
Anthracene	BQL	356	1	5/14/2009
Benzo[a]anthracene	BQL	356	1	5/14/2009
Benzo[a]pyrene	BQL	356	1	5/14/2009
Benzo[b]fluoranthene	BQL	356	1	5/14/2009
Benzo[g,h,i]perylene	BQL	356	1	5/14/2009
Benzo[k]fluoranthene	BQL	356	1	5/14/2009
Benzoic Acid	BQL	1780	1	5/14/2009
Bis(2-chloroethoxy)methane	BQL	356	1	5/14/2009
Bis(2-chloroethyl)ether	BQL	356	1	5/14/2009
Bis(2-chloroisopropyl)ether	BQL	356	1	5/14/2009
Bis(2-ethylhexyl)phthalate	BQL	356	1	5/14/2009
4-bromophenyl phenyl ether	BQL	356	1	5/14/2009
Butylbenzylphthalate	BQL	356	1	5/14/2009
2-Chloronaphthalene	BQL	356	1	5/14/2009
2-Chlorophenol	BQL	356	1	5/14/2009
4-Chloro-3-methylphenol	BQL	356	1	5/14/2009
4-Chloroaniline	BQL	1780	1	5/14/2009
4-Chlorophenyl phenyl ether	BQL	356	1	5/14/2009
Chrysene	BQL	356	1	5/14/2009
Dibenzo[a,h]anthracene	BQL	356	1	5/14/2009
Dibenzofuran	BQL	356	1	5/14/2009
Di-n-Butylphthalate	BQL	356	1	5/14/2009
1,2-Dichlorobenzene	BQL	356	1	5/14/2009
1,3-Dichlorobenzene	BQL	356	1	5/14/2009
1,4-Dichlorobenzene	BQL	356	1	5/14/2009
3,3'-Dichlorobenzidine	BQL	712	1	5/14/2009
2,4-Dichlorophenol	BQL	356	1	5/14/2009
Diethylphthalate	BQL	356	1	5/14/2009
Dimethylphthalate	BQL	356	1	5/14/2009
2,4-Dimethylphenol	BQL	356	1	5/14/2009
Di-n-octylphthalate	BQL	356	1	5/14/2009
4,6-Dinitro-2-methylphenol	BQL	1780	1	5/14/2009
2,4-Dinitrophenol	BQL	1780	1	5/14/2009
2,4-Dinitrotoluene	BQL	356	1	5/14/2009
2,6-Dinitrotoluene	BQL	356	1	5/14/2009
Fluoranthene	BQL	356	1	5/14/2009
Fluorene	BQL	356	1	5/14/2009
Hexachlorobenzene	BQL	356	1	5/14/2009
Hexachlorobutadiene	BQL	356	1	5/14/2009
Hexachlorocyclopentadiene	BQL	712	1	5/14/2009
Hexachloroethane	BQL	356	1	5/14/2009
Indeno(1,2,3-c,d)pyrene	BQL	356	1	5/14/2009
Isophorone	BQL	356	1	5/14/2009
2-Methylnaphthalene	BQL	356	1	5/14/2009
2-Methylphenol	BQL	356	1	5/14/2009

**Results for Semivolatiles  
by GCMS 8270**

Client Sample ID: TT2610-1  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-1D  
 Lab Project ID: G894-149  
 Report Basis: Dry weight  
 Initial Weight: 34.54 g

Analyzed By: DCS  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Date Extracted: 5/8/2009  
 Matrix: Soil  
 % Solids: 81.27

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	356	1	5/14/2009
Naphthalene	BQL	356	1	5/14/2009
2-Nitroaniline	BQL	356	1	5/14/2009
3-Nitroaniline	BQL	1780	1	5/14/2009
4-Nitroaniline	BQL	1780	1	5/14/2009
Nitrobenzene	BQL	356	1	5/14/2009
2-Nitrophenol	BQL	356	1	5/14/2009
4-Nitrophenol	BQL	1780	1	5/14/2009
Diphenylamine *	BQL	356	1	5/14/2009
Pentachlorophenol	BQL	1780	1	5/14/2009
Phenanthrene	BQL	356	1	5/14/2009
Phenol	BQL	356	1	5/14/2009
Pyrene	BQL	356	1	5/14/2009
1,2,4-Trichlorobenzene	BQL	356	1	5/14/2009
2,4,5-Trichlorophenol	BQL	356	1	5/14/2009
2,4,6-Trichlorophenol	BQL	356	1	5/14/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.7	97
2-Fluorophenol	10	9.6	96
Nitrobenzene-d5	10	11	110
Phenol-d6	10	10	100
2,4,6-Tribromophenol	10	10.4	104
4-Terphenyl-d14	10	9.2	92

**Comments:**

\* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

SGS North America, Inc.

Results for Semivolatiles  
by GCMS 8270

Client Sample ID: TT2610-2  
Client Project ID: TT-2610  
Lab Sample ID: G894-149-2D  
Lab Project ID: G894-149  
Report Basis: Dry weight  
Initial Weight: 34.33 g

Analyzed By: DCS  
Date Collected: 5/7/2009 14:30  
Date Received: 5/8/2009  
Date Extracted: 5/8/2009  
Matrix: Soil  
% Solids: 81.58

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	357	1	5/14/2009
Acenaphthylene	BQL	357	1	5/14/2009
Anthracene	BQL	357	1	5/14/2009
Benzo[a]anthracene	BQL	357	1	5/14/2009
Benzo[a]pyrene	BQL	357	1	5/14/2009
Benzo[b]fluoranthene	BQL	357	1	5/14/2009
Benzo[g,h,i]perylene	BQL	357	1	5/14/2009
Benzo[k]fluoranthene	BQL	357	1	5/14/2009
Benzoic Acid	BQL	1790	1	5/14/2009
Bis(2-chloroethoxy)methane	BQL	357	1	5/14/2009
Bis(2-chloroethyl)ether	BQL	357	1	5/14/2009
Bis(2-chloroisopropyl)ether	BQL	357	1	5/14/2009
Bis(2-ethylhexyl)phthalate	BQL	357	1	5/14/2009
4-bromophenyl phenyl ether	BQL	357	1	5/14/2009
Butylbenzylphthalate	BQL	357	1	5/14/2009
2-Chloronaphthalene	BQL	357	1	5/14/2009
2-Chlorophenol	BQL	357	1	5/14/2009
4-Chloro-3-methylphenol	BQL	357	1	5/14/2009
4-Chloroaniline	BQL	1790	1	5/14/2009
4-Chlorophenyl phenyl ether	BQL	357	1	5/14/2009
Chrysene	BQL	357	1	5/14/2009
Dibenzo[a,h]anthracene	BQL	357	1	5/14/2009
Dibenzofuran	BQL	357	1	5/14/2009
Di-n-Butylphthalate	BQL	357	1	5/14/2009
1,2-Dichlorobenzene	BQL	357	1	5/14/2009
1,3-Dichlorobenzene	BQL	357	1	5/14/2009
1,4-Dichlorobenzene	BQL	357	1	5/14/2009
3,3'-Dichlorobenzidine	BQL	714	1	5/14/2009
2,4-Dichlorophenol	BQL	357	1	5/14/2009
Diethylphthalate	BQL	357	1	5/14/2009
Dimethylphthalate	BQL	357	1	5/14/2009
2,4-Dimethylphenol	BQL	357	1	5/14/2009
Di-n-octylphthalate	BQL	357	1	5/14/2009
4,6-Dinitro-2-methylphenol	BQL	1790	1	5/14/2009
2,4-Dinitrophenol	BQL	1790	1	5/14/2009
2,4-Dinitrotoluene	BQL	357	1	5/14/2009
2,6-Dinitrotoluene	BQL	357	1	5/14/2009
Fluoranthene	BQL	357	1	5/14/2009
Fluorene	<b>375</b>	357	1	5/14/2009
Hexachlorobenzene	BQL	357	1	5/14/2009
Hexachlorobutadiene	BQL	357	1	5/14/2009
Hexachlorocyclopentadiene	BQL	714	1	5/14/2009
Hexachloroethane	BQL	357	1	5/14/2009
Indeno(1,2,3-c,d)pyrene	BQL	357	1	5/14/2009
Isophorone	BQL	357	1	5/14/2009
2-Methylnaphthalene	<b>3260</b>	357	1	5/14/2009
2-Methylphenol	BQL	357	1	5/14/2009

SGS North America, Inc.

**Results for Semivolatiles  
by GCMS 8270**

Client Sample ID: TT2610-2  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-2D  
 Lab Project ID: G894-149  
 Report Basis: Dry weight  
 Initial Weight: 34.33 g

Analyzed By: DCS  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Date Extracted: 5/8/2009  
 Matrix: Soil  
 % Solids: 81.58

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	357	1	5/14/2009
Naphthalene	BQL	357	1	5/14/2009
2-Nitroaniline	BQL	357	1	5/14/2009
3-Nitroaniline	BQL	1790	1	5/14/2009
4-Nitroaniline	BQL	1790	1	5/14/2009
Nitrobenzene	BQL	357	1	5/14/2009
2-Nitrophenol	BQL	357	1	5/14/2009
4-Nitrophenol	BQL	1790	1	5/14/2009
Diphenylamine *	BQL	357	1	5/14/2009
Pentachlorophenol	BQL	1790	1	5/14/2009
Phenanthrene	511	357	1	5/14/2009
Phenol	BQL	357	1	5/14/2009
Pyrene	BQL	357	1	5/14/2009
1,2,4-Trichlorobenzene	BQL	357	1	5/14/2009
2,4,5-Trichlorophenol	BQL	357	1	5/14/2009
2,4,6-Trichlorophenol	BQL	357	1	5/14/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.3	93
2-Fluorophenol	10	9.6	96
Nitrobenzene-d5	10	11	110
Phenol-d6	10	9.8	98
2,4,6-Tribromophenol	10	10.2	102
4-Terphenyl-d14	10	8.5	85

**Comments:**

\* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

SGS North America, Inc.

Results for Semivolatiles  
by GCMS 8270

Client Sample ID: TT2610-3  
Client Project ID: TT-2610  
Lab Sample ID: G894-149-3D  
Lab Project ID: G894-149  
Report Basis: Dry weight  
Initial Weight: 33.53 g

Analyzed By: DCS  
Date Collected: 5/7/2009 14:30  
Date Received: 5/8/2009  
Date Extracted: 5/8/2009  
Matrix: Soil  
% Solids: 79.25

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	376	1	5/14/2009
Acenaphthylene	BQL	376	1	5/14/2009
Anthracene	BQL	376	1	5/14/2009
Benzo[a]anthracene	BQL	376	1	5/14/2009
Benzo[a]pyrene	BQL	376	1	5/14/2009
Benzo[b]fluoranthene	BQL	376	1	5/14/2009
Benzo[g,h,i]perylene	BQL	376	1	5/14/2009
Benzo[k]fluoranthene	BQL	376	1	5/14/2009
Benzoic Acid	BQL	1880	1	5/14/2009
Bis(2-chloroethoxy)methane	BQL	376	1	5/14/2009
Bis(2-chloroethyl)ether	BQL	376	1	5/14/2009
Bis(2-chloroisopropyl)ether	BQL	376	1	5/14/2009
Bis(2-ethylhexyl)phthalate	BQL	376	1	5/14/2009
4-bromophenyl phenyl ether	BQL	376	1	5/14/2009
Butylbenzylphthalate	BQL	376	1	5/14/2009
2-Chloronaphthalene	BQL	376	1	5/14/2009
2-Chlorophenol	BQL	376	1	5/14/2009
4-Chloro-3-methylphenol	BQL	376	1	5/14/2009
4-Chloroaniline	BQL	1880	1	5/14/2009
4-Chlorophenyl phenyl ether	BQL	376	1	5/14/2009
Chrysene	BQL	376	1	5/14/2009
Dibenzo[a,h]anthracene	BQL	376	1	5/14/2009
Dibenzofuran	BQL	376	1	5/14/2009
Di-n-Butylphthalate	BQL	376	1	5/14/2009
1,2-Dichlorobenzene	BQL	376	1	5/14/2009
1,3-Dichlorobenzene	BQL	376	1	5/14/2009
1,4-Dichlorobenzene	BQL	376	1	5/14/2009
3,3'-Dichlorobenzidine	BQL	753	1	5/14/2009
2,4-Dichlorophenol	BQL	376	1	5/14/2009
Diethylphthalate	BQL	376	1	5/14/2009
Dimethylphthalate	BQL	376	1	5/14/2009
2,4-Dimethylphenol	BQL	376	1	5/14/2009
Di-n-octylphthalate	BQL	376	1	5/14/2009
4,6-Dinitro-2-methylphenol	BQL	1880	1	5/14/2009
2,4-Dinitrophenol	BQL	1880	1	5/14/2009
2,4-Dinitrotoluene	BQL	376	1	5/14/2009
2,6-Dinitrotoluene	BQL	376	1	5/14/2009
Fluoranthene	BQL	376	1	5/14/2009
Fluorene	BQL	376	1	5/14/2009
Hexachlorobenzene	BQL	376	1	5/14/2009
Hexachlorobutadiene	BQL	376	1	5/14/2009
Hexachlorocyclopentadiene	BQL	753	1	5/14/2009
Hexachloroethane	BQL	376	1	5/14/2009
Indeno(1,2,3-c,d)pyrene	BQL	376	1	5/14/2009
Isophorone	BQL	376	1	5/14/2009
2-Methylnaphthalene	BQL	376	1	5/14/2009
2-Methylphenol	BQL	376	1	5/14/2009

**Results for Semivolatiles  
by GCMS 8270**

Client Sample ID: TT2610-3  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-3D  
 Lab Project ID: G894-149  
 Report Basis: Dry weight  
 Initial Weight: 33.53 g

Analyzed By: DCS  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Date Extracted: 5/8/2009  
 Matrix: Soil  
 % Solids: 79.25

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	376	1	5/14/2009
Naphthalene	BQL	376	1	5/14/2009
2-Nitroaniline	BQL	376	1	5/14/2009
3-Nitroaniline	BQL	1880	1	5/14/2009
4-Nitroaniline	BQL	1880	1	5/14/2009
Nitrobenzene	BQL	376	1	5/14/2009
2-Nitrophenol	BQL	376	1	5/14/2009
4-Nitrophenol	BQL	1880	1	5/14/2009
Diphenylamine *	BQL	376	1	5/14/2009
Pentachlorophenol	BQL	1880	1	5/14/2009
Phenanthrene	BQL	376	1	5/14/2009
Phenol	BQL	376	1	5/14/2009
Pyrene	BQL	376	1	5/14/2009
1,2,4-Trichlorobenzene	BQL	376	1	5/14/2009
2,4,5-Trichlorophenol	BQL	376	1	5/14/2009
2,4,6-Trichlorophenol	BQL	376	1	5/14/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.3	93
2-Fluorophenol	10	8.9	89
Nitrobenzene-d5	10	9.9	99
Phenol-d6	10	9.4	94
2,4,6-Tribromophenol	10	9.6	96
4-Terphenyl-d14	10	9.1	91

**Comments:**

\* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

SGS North America, Inc.

**Results for Semivolatiles  
by GCMS 8270**

Client Sample ID: TT2610-4  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-4D  
 Lab Project ID: G894-149  
 Report Basis: Dry weight  
 Initial Weight: 33.05 g

Analyzed By: DCS  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Date Extracted: 5/8/2009  
 Matrix: Soil  
 % Solids: 79.39

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	381	1	5/14/2009
Acenaphthylene	BQL	381	1	5/14/2009
Anthracene	BQL	381	1	5/14/2009
Benzo[a]anthracene	BQL	381	1	5/14/2009
Benzo[a]pyrene	BQL	381	1	5/14/2009
Benzo[b]fluoranthene	BQL	381	1	5/14/2009
Benzo[g,h,i]perylene	BQL	381	1	5/14/2009
Benzo[k]fluoranthene	BQL	381	1	5/14/2009
Benzoic Acid	BQL	1910	1	5/14/2009
Bis(2-chloroethoxy)methane	BQL	381	1	5/14/2009
Bis(2-chloroethyl)ether	BQL	381	1	5/14/2009
Bis(2-chloroisopropyl)ether	BQL	381	1	5/14/2009
Bis(2-ethylhexyl)phthalate	BQL	381	1	5/14/2009
4-bromophenyl phenyl ether	BQL	381	1	5/14/2009
Butylbenzylphthalate	BQL	381	1	5/14/2009
2-Chloronaphthalene	BQL	381	1	5/14/2009
2-Chlorophenol	BQL	381	1	5/14/2009
4-Chloro-3-methylphenol	BQL	381	1	5/14/2009
4-Chloroaniline	BQL	1910	1	5/14/2009
4-Chlorophenyl phenyl ether	BQL	381	1	5/14/2009
Chrysene	BQL	381	1	5/14/2009
Dibenzo[a,h]anthracene	BQL	381	1	5/14/2009
Dibenzofuran	BQL	381	1	5/14/2009
Di-n-Butylphthalate	BQL	381	1	5/14/2009
1,2-Dichlorobenzene	BQL	381	1	5/14/2009
1,3-Dichlorobenzene	BQL	381	1	5/14/2009
1,4-Dichlorobenzene	BQL	381	1	5/14/2009
3,3'-Dichlorobenzidine	BQL	762	1	5/14/2009
2,4-Dichlorophenol	BQL	381	1	5/14/2009
Diethylphthalate	BQL	381	1	5/14/2009
Dimethylphthalate	BQL	381	1	5/14/2009
2,4-Dimethylphenol	BQL	381	1	5/14/2009
Di-n-octylphthalate	BQL	381	1	5/14/2009
4,6-Dinitro-2-methylphenol	BQL	1910	1	5/14/2009
2,4-Dinitrophenol	BQL	1910	1	5/14/2009
2,4-Dinitrotoluene	BQL	381	1	5/14/2009
2,6-Dinitrotoluene	BQL	381	1	5/14/2009
Fluoranthene	BQL	381	1	5/14/2009
Fluorene	BQL	381	1	5/14/2009
Hexachlorobenzene	BQL	381	1	5/14/2009
Hexachlorobutadiene	BQL	381	1	5/14/2009
Hexachlorocyclopentadiene	BQL	762	1	5/14/2009
Hexachloroethane	BQL	381	1	5/14/2009
Indeno(1,2,3-c,d)pyrene	BQL	381	1	5/14/2009
Isophorone	BQL	381	1	5/14/2009
2-Methylnaphthalene	BQL	381	1	5/14/2009
2-Methylphenol	BQL	381	1	5/14/2009



**Results for Semivolatiles  
by GCMS 8270**

Client Sample ID: TT2610-4  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-4D  
 Lab Project ID: G894-149  
 Report Basis: Dry weight  
 Initial Weight: 33.05 g

Analyzed By: DCS  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Date Extracted: 5/8/2009  
 Matrix: Soil  
 % Solids: 79.39

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
3- & 4-Methylphenol	BQL	381	1	5/14/2009
Naphthalene	BQL	381	1	5/14/2009
2-Nitroaniline	BQL	381	1	5/14/2009
3-Nitroaniline	BQL	1910	1	5/14/2009
4-Nitroaniline	BQL	1910	1	5/14/2009
Nitrobenzene	BQL	381	1	5/14/2009
2-Nitrophenol	BQL	381	1	5/14/2009
4-Nitrophenol	BQL	1910	1	5/14/2009
Diphenylamine *	BQL	381	1	5/14/2009
Pentachlorophenol	BQL	1910	1	5/14/2009
Phenanthrene	BQL	381	1	5/14/2009
Phenol	BQL	381	1	5/14/2009
Pyrene	BQL	381	1	5/14/2009
1,2,4-Trichlorobenzene	BQL	381	1	5/14/2009
2,4,5-Trichlorophenol	BQL	381	1	5/14/2009
2,4,6-Trichlorophenol	BQL	381	1	5/14/2009

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.8	88
2-Fluorophenol	10	8.7	87
Nitrobenzene-d5	10	9.4	94
Phenol-d6	10	9.2	92
2,4,6-Tribromophenol	10	8.8	88
4-Terphenyl-d14	10	9.1	91

**Comments:**

\* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

**EPH (Aliphatics/Aromatics) Laboratory Reporting Form**

Client Name: MEC Corporation

Project Name: TT-2610

Sample Information	
Sample Identification	TT2610-1
Sample Matrix	Soil
Date Collected	05/07/09 14:30
Date Received	05/08/09
Date Extracted	05/08/09
Date Analyzed	05/12/09 10:37 - 05/11/09 19:54
Dry Weight	81.3
Dilution Factor	1 - 1
Initial weight (g)	13.81
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	126	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	21.8	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	101		40	140
Aromatic (ortho-terphenyl)	73.2		40	140
Fractionation 1 (2-bromonaphthalene)	74.0		40	140
Fractionation 2 (2-fluorobiphenyl)	76.5		40	140

\*\* = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G894-149-1E	Lab Info: G894-149-1E
Aliphatic: EP051209/004F0201.D	Aromatic: EP051109/010F0801.D

Reviewed By: 

**EPH (Aliphatics/Aromatics) Laboratory Reporting Form**

Client Name: MEC Corporation

Project Name: TT-2610

Sample Information	
Sample Identification	TT2610-2
Sample Matrix	Soil
Date Collected	05/07/09 14:30
Date Received	05/08/09
Date Extracted	05/08/09
Date Analyzed	05/12/09 10:09 - 05/11/09 20:51
Dry Weight	81.6
Dilution Factor	2 - 1
Initial weight (g)	11.88
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	550	10.0	
C19-C36 Aliphatics	90.8	10.0	
C11-C22 Aromatics	248	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	87.8		40	140
Aromatic (ortho-terphenyl)	85.5		40	140
Fractionation 1 (2-bromonaphthalene)	87.6		40	140
Fractionation 2 (2-fluorobiphenyl)	82.5		40	140

\*\* = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G894-149-2E	Lab Info: G894-149-2E
Aliphatic: EP051209/003F0101.D	Aromatic: EP051109/012F1001.D

Reviewed By: 

**EPH (Aliphatics/Aromatics) Laboratory Reporting Form**

Client Name: MEC Corporation

Project Name: TT-2610

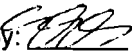
Sample Information	
Sample Identification	TT2610-3
Sample Matrix	Soil
Date Collected	05/07/09 14:30
Date Received	05/08/09
Date Extracted	05/08/09
Date Analyzed	05/11/09 21:19 - 05/11/09 21:49
Dry Weight	79.3
Dilution Factor	1 - 1
Initial weight (g)	12.00
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	31.6	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	96.0		40	140
Aromatic (ortho-terphenyl)	90.0		40	140
Fractionation 1 (2-bromonaphthalene)	98.1		40	140
Fractionation 2 (2-fluorobiphenyl)	100		40	140

\*\* = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G894-149-3G	Lab Info: G894-149-3G
Aliphatic: EP051109/013F1101.D	Aromatic: EP051109/014F1201.D

Reviewed By: 

**EPH (Aliphatics/Aromatics) Laboratory Reporting Form**

Client Name: MEC Corporation

Project Name: TT-2610

Sample Information	
Sample Identification	TT2610-4
Sample Matrix	Soil
Date Collected	05/07/09 14:30
Date Received	05/08/09
Date Extracted	05/08/09
Date Analyzed	05/11/09 22:18 - 05/11/09 22:47
Dry Weight	79.4
Dilution Factor	1 - 1
Initial weight (g)	12.97
Final Volume (mL)	10.0

Analytical Results			
Analytes**	Result mg/Kg	Report Limit mg/Kg	Flags
C9-C18 Aliphatics	BQL	10.0	
C19-C36 Aliphatics	BQL	10.0	
C11-C22 Aromatics	BQL	10.0	

Surrogates	Percent Recovery	Flags	Limits	
			Lower	Upper
Aliphatic (tricosane)	87.8		40	140
Aromatic (ortho-terphenyl)	72.9		40	140
Fractionation 1 (2-bromonaphthalene)	91.2		40	140
Fractionation 2 (2-fluorobiphenyl)	93.4		40	140

\*\* = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: G894-149-4E	Lab Info: G894-149-4E
Aliphatic: EP051109/015F1301.D	Aromatic: EP051109/016F1401.D

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 04/27/09

Calibration Ranges and Limits

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C <sub>9</sub> -C <sub>18</sub> Aliphatics	200	33.3	11.19	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C <sub>19</sub> -C <sub>36</sub> Aliphatics	200	33.3	5.72	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C <sub>11</sub> -C <sub>22</sub> Aromatics	200	33.3	1.61	Calibration Factor
	50	8.3		
	100	16.67		
	25	4.17		
	5	0.833		

Calibration Check Date: 05/11/09      Filenames: ep051109/001f0101.d  
05/11/09      ep051109/002f0201.d

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C9-C18 Aliphatics	100	16.7	11.1	≤±25%
C19-C36 Aliphatics	100	16.7	13.2	≤±25%
C11-C22 Aromatics	100	16.7	14.7	≤±25%

MDL = Method Detection Limit  
 ML = Minimum Limit  
 RL = Reportable Limit

RPD = Relative Percent Difference  
 %RSD = Percent Relative Standard Deviation  
 CCC = Correlation Coefficient of Curve

Attachment 3

EPH Laboratory Reporting Form

**Calibration and QA/QC Information**

Initial Calibration Date: 04/27/09

**Calibration Ranges and Limits**

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

**Calibration Concentration Levels**

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C <sub>9</sub> -C <sub>18</sub> Aliphatics	200	33.3	11.19	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C <sub>19</sub> -C <sub>36</sub> Aliphatics	200	33.3	5.72	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C <sub>11</sub> -C <sub>22</sub> Aromatics	200	33.3	1.61	Calibration Factor
	50	8.3		
	100	16.67		
	25	4.17		
	5	0.833		

Calibration Check Date: 05/11/09  
05/11/09

FileNames: ep051109/018f1601.d  
ep051109/017f1501.d

**Calibration Check**

Range	Levels		%Difference if CF %Drift if LR ✓	Limits
	(µg/L)	(mg/Kg)		
C9-C18 Aliphatics	100	16.7	14.1	≤±25%
C19-C36 Aliphatics	100	16.7	18.0	≤±25%
C11-C22 Aromatics	100	16.7	15.0	≤±25%

MDL = Method Detection Limit  
ML = Minimum Limit  
RL = Reportable Limit

RPD = Relative Percent Difference  
%RSD = Percent Relative Standard Deviation  
CCC = Correlation Coefficient of Curve

Attachment 3

EPH Laboratory Reporting Form

**Calibration and QA/QC Information**

Initial Calibration Date: 04/27/09

**Calibration Ranges and Limits**

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

**Calibration Concentration Levels**

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C <sub>9</sub> -C <sub>18</sub> Aliphatics	200	33.3	11.19	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C <sub>19</sub> -C <sub>36</sub> Aliphatics	200	33.3	5.72	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C <sub>11</sub> -C <sub>22</sub> Aromatics	200	33.3	1.61	Calibration Factor
	50	8.3		
	100	16.67		
	25	4.17		
	5	0.833		

Calibration Check Date: 05/12/09  
05/12/09

Filenames: ep051209/001f0101.d  
ep051209/002f0201.d

**Calibration Check**

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C9-C18 Aliphatics	100	16.7	9.1	±25%
C19-C36 Aliphatics	100	16.7	12.0	±25%
C11-C22 Aromatics	100	16.7	0.1	±25%

MDL = Method Detection Limit  
ML = Minimum Limit  
RL = Reportable Limit

RPD = Relative Percent Difference  
%RSD = Percent Relative Standard Deviation  
CCC = Correlation Coefficient of Curve



Attachment 3

EPH Laboratory Reporting Form

**Calibration and QA/QC Information**

Initial Calibration Date: 04/27/09

**Calibration Ranges and Limits**

Range	MDL		ML		RL	
	(02/15/08) (µg/L)	(02/11/08) (mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C9-C18 Aliphatics	1.66	0.274	5.28	0.871	100	10
C19-C36 Aliphatics	2.79	0.201	8.87	0.639	100	10
C11-C22 Aromatics	2.64	0.110	8.40	0.350	100	10

**Calibration Concentration Levels**

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C <sub>9</sub> -C <sub>18</sub> Aliphatics	200	33.3	11.19	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C <sub>19</sub> -C <sub>36</sub> Aliphatics	200	33.3	5.72	Calibration Factor
	100	16.7		
	50	8.33		
	25	4.17		
	5	0.833		
C <sub>11</sub> -C <sub>22</sub> Aromatics	200	33.3	1.61	Calibration Factor
	50	8.3		
	100	16.67		
	25	4.17		
	5	0.833		

Calibration Check Date: 05/12/09  
05/12/09

Filenames: ep051209/005f0301.d  
ep051209/006f0401.d

**Calibration Check**

Range	Levels (µg/L) (mg/Kg)		%Difference if CF %Drift if LR ✓	Limits
C9-C18 Aliphatics	100	16.7	11.4	±25%
C19-C36 Aliphatics	100	16.7	14.7	±25%
C11-C22 Aromatics	100	16.7	2.7	±25%

MDL = Method Detection Limit  
ML = Minimum Limit  
RL = Reportable Limit

RPD = Relative Percent Difference  
%RSD = Percent Relative Standard Deviation  
CCC = Correlation Coefficient of Curve

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**

Client Name: MEC Corporation

Project Name: TT-2610

Sample Information	
Sample Identification	TT2610-1
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	05/07/09 14:30
Date Received	05/08/09
Date Extracted	05/08/09
Date Analyzed	05/11/09 20:02 - 05/11/09 20:02
Dry Weight	81.3
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C <sub>5</sub> -C <sub>8</sub> Aliphatics**	BQL	10.0		
C <sub>9</sub> -C <sub>12</sub> Aliphatics**	40.9	10.0		
C <sub>9</sub> -C <sub>10</sub> Aromatics**	67.6	10.0		
	Percent Recovery	Flags	Limits Lower   Upper	
Surrogate % Recovery - PID	96.0		70	130
Surrogate % Recovery - FID	110		70	130

\* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

\*\* = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g894-149-1b	Lab Info: g894-149-1b
FID Info: VP051109/028F0101.D	PID Info: VP051109/028R0101.D

Reviewed By: 

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**

Client Name: MEC Corporation

Project Name: TT-2610

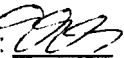
Sample Information	
Sample Identification	TT2610-2
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	05/07/09 14:30
Date Received	05/08/09
Date Extracted	05/08/09
Date Analyzed	05/11/09 20:29 - 05/11/09 20:29
Dry Weight	81.6
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C <sub>5</sub> -C <sub>8</sub> Aliphatics**	BQL	10.0		
C <sub>9</sub> -C <sub>12</sub> Aliphatics**	41.3	10.0		
C <sub>9</sub> -C <sub>10</sub> Aromatics**	94.6	10.0		
	Percent Recovery	Flags	Limits Lower   Upper	
Surrogate % Recovery - PID	92.2		70	130
Surrogate % Recovery - FID	114		70	130

\* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

\*\* = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g894-149-2b	Lab Info: g894-149-2b
FID Info: VP051109/029F0101.D	PID Info: VP051109/029R0101.D

Reviewed By: 

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**

Client Name: MEC Corporation

Project Name: TT-2610

Sample Information	
Sample Identification	TT2610-3
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	05/07/09 14:30
Date Received	05/08/09
Date Extracted	05/08/09
Date Analyzed	05/11/09 20:55 - 05/11/09 20:55
Dry Weight	79.3
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C <sub>5</sub> -C <sub>8</sub> Aliphatics**	BQL	10.0		
C <sub>9</sub> -C <sub>12</sub> Aliphatics**	BQL	10.0		
C <sub>9</sub> -C <sub>10</sub> Aromatics**	BQL	10.0		
	Percent Recovery	Flags	Limits Lower   Upper	
Surrogate % Recovery - PID	80.7		70	130
Surrogate % Recovery - FID	100		70	130

\* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

\*\* = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g894-149-3b	Lab Info: g894-149-3b
FID Info: VP051109/030F0101.D	PID Info: VP051109/030R0101.D

Reviewed By: 

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**

Client Name: MEC Corporation

Project Name: TT-2610

Sample Information	
Sample Identification	TT2610-4
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	05/07/09 14:30
Date Received	05/08/09
Date Extracted	05/08/09
Date Analyzed	05/11/09 21:22 - 05/11/09 21:22
Dry Weight	79.4
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result mg/Kg	Report Limit mg/Kg	Flags	
C <sub>5</sub> -C <sub>8</sub> Aliphatics**	BQL	10.0		
C <sub>9</sub> -C <sub>12</sub> Aliphatics**	BQL	10.0		
C <sub>9</sub> -C <sub>10</sub> Aromatics**	BQL	10.0		
	Percent Recovery	Flags	Limits Lower   Upper	
Surrogate % Recovery - PID	82.4		70	130
Surrogate % Recovery - FID	100		70	130

\* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

\*\* = Excludes any surrogates or internal standards and are unadjusted for individual analytes.

Lab Info: g894-149-4b	Lab Info: g894-149-4b
FID Info: VP051109/031F0101.D	PID Info: VP051109/031R0101.D

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

**Calibration and QA/QC Information**

FID Initial Calibration Date: 05/08/09      PID Initial Calibration Date: 05/08/09

**Calibration Ranges and Limits**

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C <sub>5</sub> -C <sub>8</sub> Aliphatics	2.02	0.175	6.42	0.557	100	10
C <sub>9</sub> -C <sub>12</sub> Aliphatics	1.51	0.118	4.80	0.375	100	10
C <sub>9</sub> -C <sub>10</sub> Aromatics	0.902	0.132	2.87	0.420	100	10

**Calibration Concentration Levels**

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C <sub>5</sub> -C <sub>8</sub> Aliphatics	10	0.8	8.80	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C <sub>9</sub> -C <sub>12</sub> Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C <sub>9</sub> -C <sub>10</sub> Aromatics	10	0.8	21.76	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 05/11/09      Filename: VP051109/013F0101.d

**Calibration Check**

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C <sub>5</sub> -C <sub>8</sub> Aliphatics	200	16	-1.6	±25%
C <sub>9</sub> -C <sub>12</sub> Aliphatics	200	16	-8.4	±25%
C <sub>9</sub> -C <sub>10</sub> Aromatics	200	16	5.5	±25%

MDL = Method Detection Limit  
ML = Minimum Limit  
RL = Reportable Limit

RPD = Relative Percent Difference  
%RSD = Percent Relative Standard Deviation  
CCC = Correlation Coefficient of Curve

Attachment 2

VPH Laboratory Reporting Form

**Calibration and QA/QC Information**

FID Initial Calibration Date: 05/08/09 PID Initial Calibration Date: 05/08/09

**Calibration Ranges and Limits**

Range	MDL		ML		RL	
	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)	(µg/L)	(mg/Kg)
C <sub>5</sub> -C <sub>8</sub> Aliphatics	2.02	0.175	6.42	0.557	100	10
C <sub>9</sub> -C <sub>12</sub> Aliphatics	1.51	0.118	4.80	0.375	100	10
C <sub>9</sub> -C <sub>10</sub> Aromatics	0.902	0.132	2.87	0.420	100	10

**Calibration Concentration Levels**

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD if CF r if LR	Method of Quantitation
C <sub>5</sub> -C <sub>8</sub> Aliphatics	10	0.8	8.80	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		
C <sub>9</sub> -C <sub>12</sub> Aliphatics	10	0.8	1.00	Linear Regression
	50	4		
	100	8		
	200	16		
	500	40		
C <sub>9</sub> -C <sub>10</sub> Aromatics	10	0.8	21.76	Calibration Factor
	50	4		
	100	8		
	200	16		
	500	40		

Calibration Check Date: 05/11/09 Filename: VP051109/034F0101.d

**Calibration Check**

Range	Levels (µg/L)	Levels (mg/Kg)	%Difference if CF %Drift if LR ✓	Limits
C <sub>5</sub> -C <sub>8</sub> Aliphatics	200	16	-3.2	±25%
C <sub>9</sub> -C <sub>12</sub> Aliphatics	200	16	-8.3	±25%
C <sub>9</sub> -C <sub>10</sub> Aromatics	200	16	10.3	±25%

MDL = Method Detection Limit  
ML = Minimum Limit  
RL = Reportable Limit

RPD = Relative Percent Difference  
%RSD = Percent Relative Standard Deviation  
CCC = Correlation Coefficient of Curve

**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: TT2610-B  
 Client Project ID: TT-2610  
 Lab Sample ID: G894-149-5B  
 Lab Project ID: G894-149  
 Report Basis: Dry Weight

Analyzed By: DVG  
 Date Collected: 5/7/2009 14:30  
 Date Received: 5/8/2009  
 Matrix: Soil  
 Solids 81.48

Analyte	Result	RL	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	5.02	mg/Kg	1	05/11/09 14:18

**Surrogate Spike Results**

	Added	Result	Recovery	Flag	Limits
BFB	100	100.0	100.0		70-130

**Comments:**

**Batch Information**

Analytical Batch: VP051109  
 Analytical Method: 8015  
 Instrument ID: GC4  
 Analyst: DVG

Prep Method: 5030  
 Initial Wt/Vol: 7.34 g  
 Final Volume: 5 mL

Analyst: DVG



**Results for Total Petroleum Hydrocarbons**  
by GC/FID 8015

Client Sample ID: TT2610-B  
Client Project ID: TT-2610  
Lab Sample ID: G894-149-5C  
Lab Project ID: G894-149

Date Collected: 5/7/2009 14:30  
Date Received: 5/8/2009  
Matrix: Soil  
Solids 81.48  
Report Basis: Dry Weight

Parameter	Result	RL	Units	Dilution Factor	Date Analyzed
Diesel Range Organics	754	73.8	mg/Kg	10	05/12/09 12:02

Surrogate Spike Results	Spike Added	Control Limits	Spike Result	Percent Recovery
OTP	40	40-140	NA	NA

Comments:

**Batch information**

Analytical Batch: EP051209  
Analytical Method: 8015  
Instrument: GC6  
Analyst: EAW

Prep batch: 14223  
Prep Method: 3541  
Prep Date: 05/08/09  
Initial Prep Wt/Vol: 33.27 G  
Prep Final Vol: 10 mL

Analyst:     *GW*    

NC Certification #481

Reviewed By:     *[Signature]*      
DRO.XLS



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<b>1</b> CLIENT: <u>MEC CORP.</u>					SGS Reference: <u>6894-149</u>					PAGE <u>1</u> OF <u>1</u>									
CONTACT: <u>ROB FINLEY</u> PHONE NO.: ( )					<b>CONTAINERS</b> No. <u>6</u> SAMPLE TYPE: <u>TPH GRO</u> Preservatives Used: <u>3</u> Analysis Required: <u>2 OF GRAB</u> <u>TPH DRO 8260</u> <u>8270</u> <u>MADEP EPH</u> <u>MADEP VPH</u>					REMARKS <u>EDD + PDF</u> <u>email to</u> <u>ROB FINLEY</u>  <u>Analysis changed</u> <u>per R. Finley</u> <u>5/8/09</u>									
PROJECT: <u>TT-2610</u> SITE/PWSID#:																			
REPORTS TO: <u>ROB FINLEY</u> E-MAIL:																			
INVOICE TO: <u>JULIE SMITH</u> QUOTE #																			
P.O. NUMBER																			
LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No.	SAMPLE TYPE	Preservatives Used	Analysis Required											
	<u>TT 2610-1</u>	<u>5/17/09</u>	<u>14:30</u>	<u>SOIL</u>	<u>6</u>	<u>TPH GRO</u>	<u>3</u>	<u>2 OF GRAB</u>											
	<u>TT 2610-2</u>	<u> </u>																	
	<u>TT 2610-3</u>	<u> </u>																	
	<u>TT 2610 B</u>	<u> </u>																	
	<u>TT 2610-4</u>	<u> </u>																	
<b>5</b> Collected/Relinquished By: (1) <u>[Signature]</u>					<b>4</b> Shipping Carrier:					Samples Received Cold? (Circle) YES NO									
Date: <u>5/17/09</u> Time: <u>15:30</u>					Received By: <u>[Signature]</u> Date: <u>5/18/09</u> Time: <u>10:10</u>					Shipping Ticket No:					Temperature (C): <u>2.4°C</u>				
Relinquished By: (2) <u>[Signature]</u>					Received By:					Special Deliverable Requirements:					Chain of Custody Seal: (Circle) INTACT BROKEN <u>ABSENT</u>				
Relinquished By: (3)					Received By:					Special Instructions:									
Relinquished By: (4)					Received By:					Requested Turnaround Time:					<u>RUSH 48 hr Turn</u> <input type="checkbox"/> STD				

**APPENDIX F**  
**PHOTOGRAPHS**



**UST TT-2610 during removal**



**UST TT-2610 soil removal activities**